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Textile World

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Textile World's *Annual Editorial Inventory*

STOCK-TAKING has been a pleasanter job this year. The balance-sheet of the textile industry shows improvement.

Nor is this improvement solely of the type mentioned by the small retailer who, on being pressed for the payment of a bill, said: "Come around next week and I'll try to pay you. This week business has been fundamentally sound."

There has been an *actual* change in textiles. During the last months of the year, volume of business, profit margins, and price tone of the market have all improved.

Our inventory tells why.

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THIS inventory is based upon the group of objectives which we set down in these columns at the beginning of the year as outstandingly important. We offered them as "guide-posts" for textile traffic.

Checking accomplishments against those objectives:

1. *Balancing production with demand:* Never before in the history of the industry has there been such an intelligent and concerted effort in this direction. There have been times, of course, when everything that was made could be sold and when there was consequently an automatic balance between output and sales. But this year only a part of the potential production of existing equipment could find a market. Taking the industry as a whole, it has produced that part, and has refrained from producing the unwanted remainder.

2. *Development of sound employment policies:* Two great accomplishments stand out—both in the cotton division of the industry. The maximum work-week has been set uniformly at 55 hours day-shift and 50 hours night-shift. The movement to eliminate night employment of women and minors in cotton mills has received the endorsement of the majority of the industry. In addition, the proposal has been made to extend this movement to woolen and worsted mills; 1931 should see accomplishment of this aim.

3. *Organized fundamental technical research:* The newly-formed United States Institute for Textile Research is now functioning under its permanent organization and is receiving an increasing degree of support. The Textile Foundation, also created this year, has already sponsored several important research projects.

4. *Scientific cultivation of export markets:* The Textile Export Association of the United States, organized last summer for the cooperative utilization of the facilities of the Webb-Pomerene Act, now comprises 43 member firms and represents the first intelligent attempt to build up sustained foreign outlets for American textiles. A mercerizers' export association is functioning with a similar objective in its field.

5. *Modernization of plant and equipment:* The three textile expositions held during the year revealed record-breaking development and refinement of all types of textile machinery, coupled with an unprecedented interest in the application of that progress to individual plants. The major reflection of this trend should become apparent in 1931.

6. *Determination of costs on sound and uniform principles:* Establishment of such principles has progressed notably during the year. A start has been made toward their adoption

by the rank and file of textile manufacturers. The bulk of this latter phase of the work must be classed under the head of "goods in process."

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AFTER listing the major objectives at the beginning of the year, we expressed the opinion that all activities must be coordinated toward: (1) More adequate wage rates for operatives; (2) more adequate profit margins for stockholders. We cited as the greatest single need of the textile industry its transformation from a low-wage to a high-wage industry, but we emphasized the fact that this could not be achieved until all the steps outlined were taken.

This inventory is a statement of fact, not of hope. Consequently we cannot pretend that this ultimate objective has been reached. We can however report progress. In a year when general business demoralization threatened all established standards, the textile industry, by and large, has resisted the temptation to "take it out of wages." More than that, it has expressed in no uncertain terms its disapproval of those manufacturers who have attempted to resort to that expedient, except in cases where wages have been out of line with prevailing levels. It has gone on the basis that textile wages, as a whole, are not subject to deflation, and that any trend in that direction would retard progress toward a sounder fundamental basis, without yielding even temporary gains commensurate with the ultimate loss.

Nor has there been absence of improvement in profit margins. The spread between raw material costs and prices of finished products has broadened somewhat. In addition, there is increased disinclination to take profitless orders.

For 1931, all 1930 objectives still hold. No one of them has reached final achievement. However certain ones will require major emphasis. Others have been created by altered conditions. We shall indicate both types next week in our program for 1931.

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THE second part of this inventory deals with the job TEXTILE WORLD is doing. It is not set down for promotional purposes, but is offered our readers for the same reason that a textile manufacturing company outlines its current position for the information of its stockholders.

Major TEXTILE WORLD developments during 1930 have been:

1. The group of objectives for the industry itself has been made the basis for our own editorial program. It has served as our budget, if you will. Around it we have built our major editorial emphasis. We have attempted to maintain balanced treatment of all the individual objectives; to check progress on each periodically; and to encourage action on each at the proper time. In this way we hope we have contributed to the results realized to date.

2. We have initiated a three-stage investigation into the question of machinery obsolescence.

3. We have started to publish the results of a staff study of the problem of yarn merchandising.

4. We have established a forum, in which overseers may discuss operating problems—and particularly those involving human relationships within a textile mill.

5. We have created a department through which the attitude of the retail buyer toward textile products may be presented.

6. We have enlarged and broadened the technical content of the publication, with the idea of making it of maximum value to the man in the mill.

7. We have endeavored to make the TEXTILE WORLD *Analyst* a more comprehensive and accurate presentation of textile market trends.

8. We have extended our staff contacts in the mill sections of both the North and the South.

9. We have endeavored to make our convention and exposition reports interpretative rather than purely reportorial.

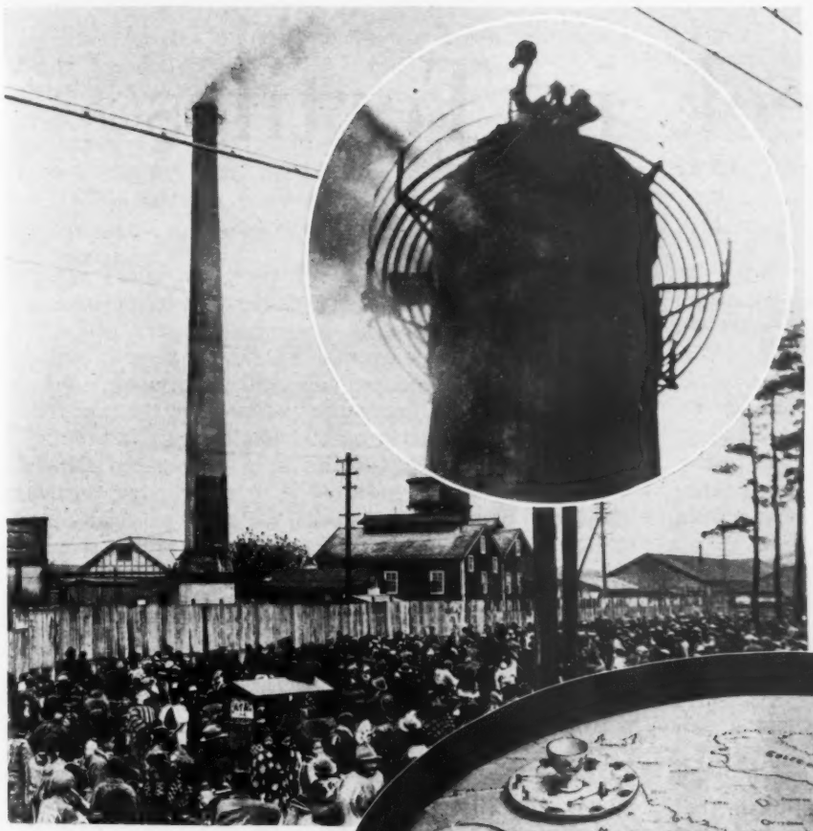
10. We have, we hope, frankly faced the facts confronting the industry and fearlessly expressed our opinions.

Just as is true in the case of the industry's objectives, no one of the above TEXTILE WORLD developments can be regarded as finished business. Each of them—and others created by changing conditions — are included in the agenda for 1931.

Response from our readers has indicated endorsement of our program. We pledge its further development in 1931.

Douglas G. Woolf

Editor



International Photo

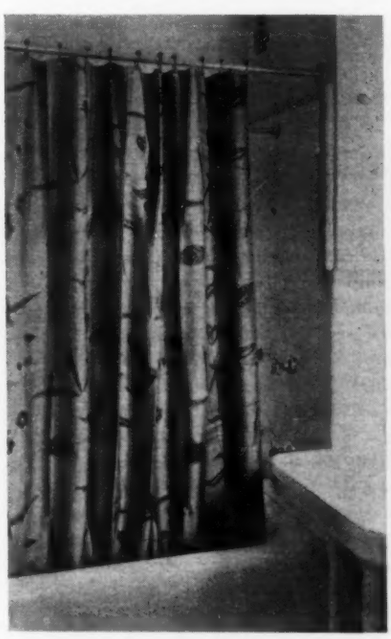
A huge crowd gathered outside the property of the Fuji Cotton Mill near Yokohama to watch Kiyoshi Tanabe, Japan's champion chimney sitter, squatting atop the 130-foot chimney as a form of protest against refusal by owners of the mill to agree to the terms of striking mill workers. After a 130-hour vigil, he found his feat had been successful in bringing the mill owners to terms.

Cotton Textile Institute

A New York traffic policeman demonstrates a new use of cotton—white canvas gauntlets which make his signals more visible after dark.

International Photo

Travel while you eat. These new map-pattern tablecloths are all the rage in Paris. The thing to do is to have a series of them so that one can breakfast on the Alps, dine in Paris, and sup on the Riviera. Looks like a tip to American tablecloth makers.



Waterproofed rayon designed by Dupont Rayon Co. especially for use in shower bath curtains.

Bonney

Weavers in historic national French tapestry factory at Beauvais making chair tapestries for the office of the Ministry. Weaving is done according to the age-old custom of knotting from the wrong side through, and many years are often required to make a single tapestry. However the artisans work under most modern conditions.

The Week in Textiles

To Undersell Foreign Wool . . .

THE NATIONAL WOOL MARKETING CORP. has announced a new policy of underselling competing foreign wools. The statement says that the plan will "make wool raised by United States wool growers of better value to the purchaser than similar foreign wool." . . . . The cooperatives' wool will thus come on the market and the trade will be relieved of a surplus constantly held over the market with doubtful future consequences. Executives of the marketing corporation hope to move their stocks by the end of next spring, but say there will be no dumping of this wool. . . . . If they propose to undersell foreign wools it is to be hoped that at the same time they will find some guard against dumping of foreign wools into this market.

Silk's Christmas Present . . .

STEADY THOUGH light buying, and a firm market with spot prices edging upward, came as a pleasant holiday gift to the raw silk industry. Silk importers face the new year with more optimism than they would have thought possible during the dark days of last July, when "two dollar silk" was an unofficial reality. . . . . A strong market in the usually light month of December is a good sign, but the industry is not yet out of the woods; already the best minds in the silk trade are warning against overconfidence in the spring period.

Good News From Argentina . . .

THE DEPARTMENT OF COMMERCE this week confirmed reports that the Provisional Government of Argentina had revised its import duties, effecting an immediate reduction of about 50% in the duties on silk and rayon merchandise. The department had not yet received the new list of imposts, and could not give details. The news was particularly welcome to American full-fashioned silk hosiery producers, whose exports to Argentina average $2,000,000 yearly; high import taxes had reduced the total exports of full-fashioned hosiery to that country of late, but the new reduction is expected to bring business back to, if not above, the normal. . . . . Coming at a time when the full-fashioned hosiery industry is much worried regarding disposal of its surplus stocks, the cut is especially pleasing, and it has made the hosiery mills which specialize in exports decidedly more optimistic regarding 1931 prospects.

Color Correlation Luncheons . . .

LUNCHEONS WHICH bring together executives who are interested in color correlation among different industries are being given at the Park Lane Hotel, New York, by Mrs. Margaret Hayden Rorke, managing director of the Textile Color Card Association. . . . . This week two groups have met: the first representing the shoe and leather industries, and the second representing the retail trade. . . . . This seems like a direct approach to the color problems of the fashion industries.

What Price Low Inventories? . . .

DEPARTMENT STORE insistence upon minimum Christmas stocks has had a somewhat depressive effect on sales, and there were indications lately that the lack of choice in gift merchandise, especially in such outstanding textile lines as underwear, sweaters and ready-to-wear apparel, resulted in a serious loss in sales. . . . . Before Christmas leading New York stores were

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The Textile Outlook

SCANT business has characterized textile circles this week which fits into expectations based on the usual thing for holiday weeks in past years. The fact that the year is closing with light inventories and fair future business on many lines is a matter for congratulation and gives as sound a basis as possible, until general business improves, for further progress early in the new year. Caution, intelligence and backbone are the necessary ingredients for markets which are to make the most of the situation. . . . The cotton goods field has an object lesson behind it of the loss of confidence following price weakness. It remains to be seen whether the industry will learn from experience and use more modern tools than price-clippers to build up business. Wool goods must wait for a seasonal turn, but prospects at least for women's wear are fair. Knit goods are a little backward but hope for betterment after inventory time. Silk men are praising the firmness of the raw material and are encouraged to look for better things.

The Business Outlook

THE statistical Santa Claus has so far pulled nothing either very surprising or very disappointing out of the Christmas pack. Holiday business seems to be in fair volume, but trade indicators are confused by abnormal shifts of currency and bank funds accompanying withdrawals of deposits and closing of banks due to popular hysteria in some sections. Building contracts are holding up surprisingly well for the season and this may be significant if continued. Merchandise carloadings also are declining more slowly than usual at this period. Industrial activity is slackening rapidly, as it usually does in last two weeks of the year, what with holiday and inventory shut-downs; but a fair amount of forward buying of steel at firm prices strengthens promise of a first of the year upturn. Our index remains practically unchanged for the week ended Dec. 20, at about 76% of normal. Return of strength to the bond market is the most encouraging event of the past week.

—The Business Week.

buying from nearby mills by telephone, allowing only 24 hours for delivery. At the knitted outerwear end in particular, mill stocks were low, and mills were unable to deliver for several days. Stores followed the policy of waiting until the last unit of a line is sold, before reordering, with the result that customers are obliged to shop from store to store for an ordinary staple item. . . . . As consumer tendency toward spending money is none too strong at best this year, a few set-backs in getting the exact article easily influence shoppers to abandon the search—or to substitute some less expensive article which catches the eye. . . . . Stores went to the extreme in hand-to-mouth buying this year and have been finding it out—too late. The low inventory policy is proving an expensive indulgence.

Forward March! . . .

AMERICAN SOLDIERS will wear a new standard uniform of cotton khaki cloth, recently approved by the War Department, and an existing fund of $825,000 will be expended for 600,000 yards of these goods. . . . . Specifications for the new cloth, which were developed by the Philadelphia Quartermaster Depot in consultation with the Philadelphia Textile School, call for two-ply yarn in both warp and filling, guaranteed fast-color dyes, and mercerization of the material. . . . . The 165,000 uniforms will have coats of the roll collar style and will be worn at ceremonies and on special occasions.

Making Rayon Luminous . . .

CONTRADICTING THE tendency among American rayon producers for the development of low luster rayon, two French experts are reported to have perfected a process for producing rayon which is actually luminous. The material is made luminous by immersing it in a bath consisting of 250 gr. radio-active zinc sulphide, 10 gr. amyl acetate, 400 gr. size, 75 gr. gelatine, 400 gr. grape sugar and 1,000 c.c. water. Another method reported to give the desired luminosity, is to incorporate these constituents with the liquid chemicals used for the production of the rayon. . . . . The market possibilities of the luminous rayon are interesting though perhaps not wide. Several uses suggest themselves, including the stage (decoration and apparel); to a lesser degree, novelty effects in everyday women's wear; and numerous technical uses where light giving properties would be serviceable.

Larger Men's Wear Sales . . .

IMPROVEMENT IN production and billing of men's wear fabrics is shown in data compiled by the Wool Institute, Inc., for November, 1930. . . . . Production of men's wear lines increased 23.7% as compared with October and billings showed an increase of 32%. Surplus stocks of these fabrics increased only 1.1%. Seasonal decline in women's wear is seen from statistics showing production expanded 3.1% in November while billings fell off 29.5% and surplus stocks increased 10.5%. . . . . Figures show production is practically being kept within limits of current demand.

Watching Stocks Too Much? . . .

THE COTTON GOODS market—or rather a part of it—has been acting as though some sellers were taking a leaf out of the stock exchange December book. A rush among a limited number of sellers to unload all spot goods possible before the end of the year resembles the rush to unload in stocks to establish income tax losses. . . . . At least one large concern announced that its mills would not operate under such conditions and withdrew offers for present. Fundamentals which still seem fair enough should bring weak sisters in the market to their senses after first of year.

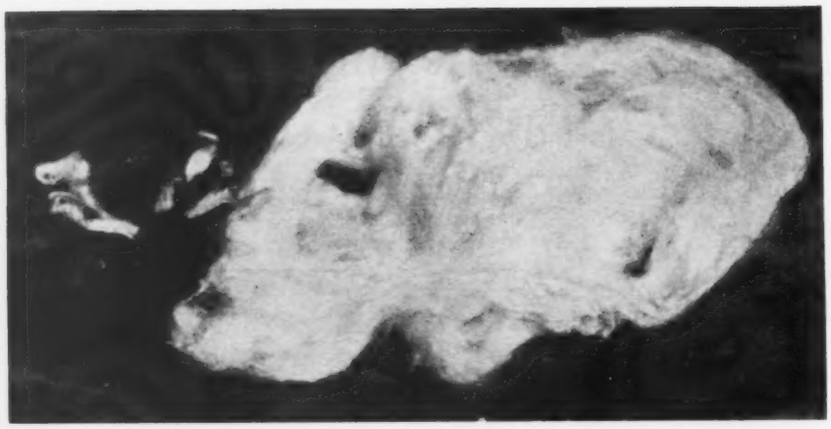
Textile Industry Alive To Business Necessities

Says S. L. Willson

"Under competitive conditions, such as now exist, the application of accurate knowledge of operations, production, distribution and consumption is absolutely necessary to secure successful results in business," says S. L. Willson, president, American Writing Paper Co., Inc., Holyoke, Mass. "The textile industry is evidently alive to present business necessities and is to be congratulated for its vision and foresight in applying scientific research to improve its condition."

Cotton Mule Again a Loser? . . .

FROM LANCASHIRE, England, comes the report that a new machine, known as the inclined-mule-spindle ring frame, has been developed to spin satisfactorily the fine cotton yarns which are now made only on the mule. . . . . The installation of such a machine, if it justifies its claims, should afford a substantial reduction in operating costs. Machinery builders who are reported to have taken out licenses to manufacture include Howard & Bullough, Dobson & Barlow, John Hetherington, and Tweedales & Smalley. Textile Underclearers, Ltd., Preston, Lancashire, is the patentee.



A handful of rayon staple

Rayon Staple *Will Enter 1931*

With Promise of Wider Markets

IN REVIEWING the development of synthetic textiles during 1930, an important place must be accorded rayon staple, which has won increasing recognition through the year and which will enter 1931 under promising auspices. Due to the newness of rayon staple, numerous textile manufacturers are still somewhat in the dark as to its properties and content, and a brief explanation may be in order. It is important that rayon staple should not be confused with rayon waste; the two are different in many fundamentals. Rayon staple fiber is constant in denier and uniform in length, while rayon waste may vary greatly in denier and lengths.

Spun rayon staple is being used for the manufacture of a wide range of textile products, chief among which might be mentioned plushes, dress fabrics, knit goods (hosiery, sweaters and underwear), draperies, carpets and rugs. Plush represents one of the major consuming markets, and has possibilities for greater growth. Piles having a distinctive silky lustre are made from rayon staple, and manufacturers enjoyed a good turnover on these fabrics this year. In dress goods rayon staple is being used in warp and filling, giving the fabric a luxurious aspect; damasks, table linen, bed linen and linings are other markets being developed.

Important in Dress Goods

In apparel goods, manufacturers have produced attractive crepes by combining spun rayon staple with continuous filament rayon yarns and silk yarns. Spun rayon staple is not competing with continuous filament rayon because of its different characteristics. Some domestic spun rayon is made from imported staple fiber; the import tax of 25% ad valorem and the fact that rayon staple is somewhat more costly to produce naturally puts spun rayon staple fabrics in the quality group. The

Sample of napped dress goods fabric made from rayon staple.

du Pont Rayon Co. is the only domestic producer of rayon staple fiber, and this company sells to a constantly widening group of spinners. Most of the imported rayon staple fiber comes from Germany, Italy and England. Little spun yarn is imported, largely due to the rapid development of rayon staple spinning in this country.

Rayon staple of 1.5 denier, cut to lengths of 1½ inches is used for cotton spinning, and 5.5 denier in lengths of 6 inches for worsted spinning. The imported fiber sells at 47 to 54c. per lb., and the domestic at 50 to 60c. per lb. In spun rayon staple, a popular number is 20s two-ply yarn for cotton combinations which sell at $1.21. All these prices are approximate. Standard spinning machinery is used to spin rayon staple.

Staple's Advantages

Rayon staple fiber resembles somewhat better grades of rayon waste at first glance, but rayon staple has a softer hand. Another desirable trait of rayon staple is that it takes the dye particularly well. Spun rayon staple

has a more subdued luster than regular continuous filament rayon. It is strong, and when spun, has 75% strength in water; this strength, which is due to its twist, gives rayon staple an additional advantage for certain products. Spun viscose process rayon staple takes the same dyes as those used for regular viscose process rayon yarn. Fabrics combining rayon staple with cotton, silk, wool or regular continuous filament rayon, are fast winning approval in certain consuming markets. Some rayon staple spinners emphasize the "spun silk luster" of their yarn, and there seems to be a growing tendency to regard spun rayon staple yarn as a desirable adjunct to spun silk. This is especially true in the field of sport goods; some very attractive shantung fabrics are made from rayon staple and resemble certain spun silk fabrics; others resemble fine worsteds.

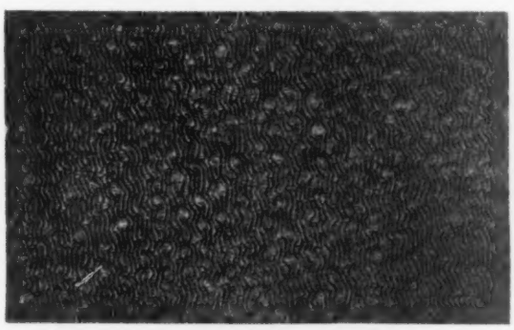
The year was important chiefly as marking the entry of rayon staple into new markets. One development was the manufacture of bath mats, towels and other wash goods, in which cotton and rayon staple were combined. This business does not represent a large volume turnover as yet, but is believed to offer much promise. The rayon staple bath mats, while still something of a luxury proposition, are decidedly interesting. The rayon staple gives these mats a soft, rich and bright surface, suggestive of silk, and adds its own absorption capacity to that of the cotton. Rayon staple also is being made into turkish towels. In all these goods, the warp is cotton, and the filling is rayon staple.

Used in Wood Combinations

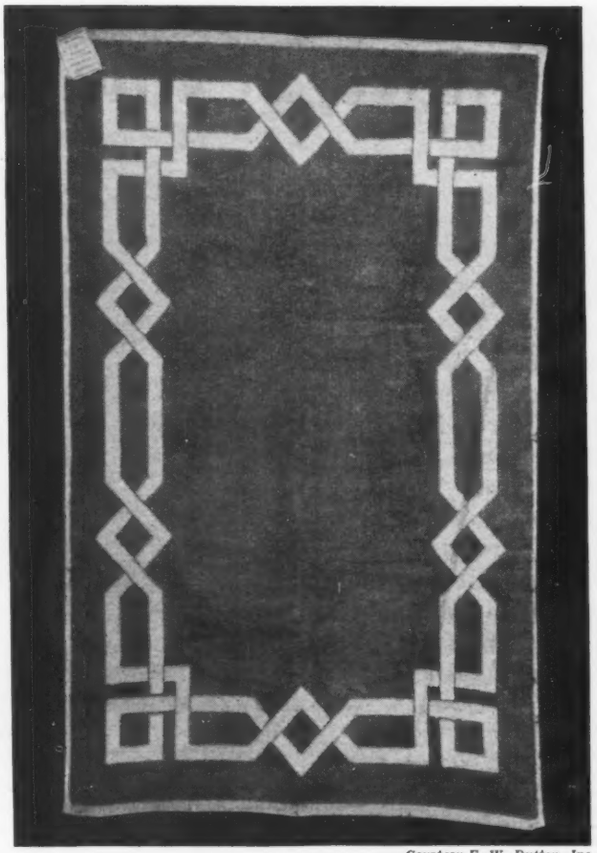
Cotton spinners are coming more and more to use this new fiber. The usual cotton sizes, such as 14s, 35s, 50s and 60s single, as well as two-ply, are spun 100% from rayon staple. Novelty yarns, shantungs, spirals, ratines and boucles are made from 1.5 denier. When blended with wool, rayon staple gives the fabric a desirable luster and a softer hand; it also permits the distinctive color effects which are peculiar to synthetic yarns.

Nyanza Mills are among the pioneers in supplying their trade with desirable spun rayon staple yarns. Other mills that supply their trade with various types of suitable yarns spun from domestic or imported rayon staple are Indian Orchard Co., Quissett Mill, New England Spun Silk Corp., Montgomery Co., Fitchburg Yarn Co. and Waypoyset Mfg. Co.

Rayon staple is used to an increasing degree by spun silk mills. A 1.5 denier 6-inch rayon staple in shantung effects, spun from domestic rayon staple, was one of the interesting numbers promoted in this field during 1930. This was spun by New England Spun Silk Corp. Rayon staple is also desirable for worsted spinners. On the Bradford system a 5.5 denier rayon staple in length of 6 inches has worked out to advantage. Fiber Products Co. and Putnam Spinners, Inc., feature worsted spun yarns made from du Pont rayon staple. Such yarns are particularly well adapted for use in the pile fabric trade.



Crepe made from combination of rayon and spun rayon staple



Courtesy E. W. Dutton, Inc.

Bath mat made of spun rayon staple and cotton. W. H. and A. E. Margerison & Co., Philadelphia, manufacturers

Staple Piece Goods

There are a number of large representative cotton piece goods mills who are spinning rayon staples for use in their own fabrics. Slater Mills, in particular, are featuring an attractive comprehensive range of spun rayon staple piece goods, under trade name Fibray Fabrics.

Like its sister, continuous filament rayon, rayon staple is important both for development to date, and future prospects. It still has a long way to go before it can rank in sales volume among the major rayons; present indications are that it will be valuable in combination. However, it has sufficient individual qualities and characteristics to stand solidly on its own merits. It lends a silver tone and sparkle to an otherwise dull fabric. Laboratory progress has given it a degree of strength unusual in a synthetic fiber, and sales of rayon staple through the last year were encouraging enough to justify much hope for 1931. The luxurious effects obtainable from rayon staple make it desirable in quality merchandise manufacture, where price is not a primary consideration. It is already making good strides in this field and with continued improvement in production methods, which would tend to lower costs, it is reasonable to assume that eventually prices will come down so as to permit a proportionate increase in turnover, through a wider market.

Future Textile-Laboratory Practice

By Geo. B. Haven, S. B.

At a recent meeting of Committee D-13, the textile committee of the American Society for Testing Materials, Prof. Geo. B. Haven, who is in charge of textile research, Massachusetts Institute of Technology, Cambridge, Mass., described various types of textile-testing equipment recently introduced and others now being developed. An abstract of Professor Haven's paper is presented herewith.

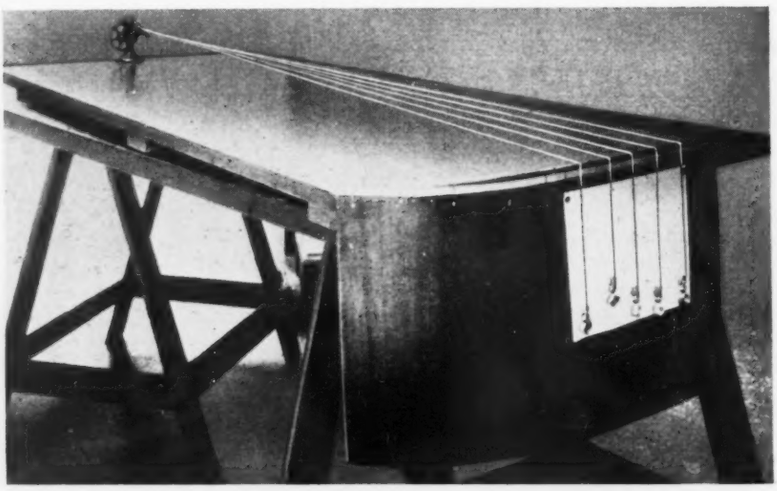


Fig. 1. Apparatus for measuring corkscrew

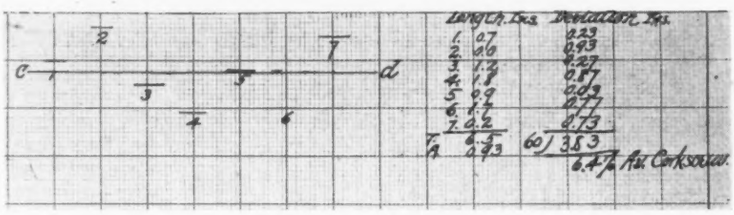


Fig. 2. Mathematical computation of corkscrew

IT IS the object of this paper to suggest certain new avenues along which it is believed the future work of Committee D-13 will doubtless be directed. The following suggestions concern themselves not with the original fibers, but with their manufactured forms in yarn and fabrics. Aside from basal research of a very broad character, the study of fibers is outside the reach of the average testing laboratory. The determinations are listed, first, with reference to yarn, and second, to fabric. The yarn properties may be listed as follows: (a) Measurement of yarn balance. (b) Measurement of corkscrew. (c) Crimp determinations. (d) Yarn slippage.

The fabric qualities may further be stated as follows: (e) Porosity. (f) Absorbability. (g) Bursting strength. (h) Precise thickness. (i) Abrasion. (j) Heat flow. (k) Resilience.

The bone dry method of testing, with its evident disadvantages of inaccuracy, haste, etc., has well nigh been superseded by other forms of testing. Again, the method of correction by table or chart from prevailing conditions to those of full regain is open to many criticisms. It would seem, therefore, that, after all, the best method of testing, by far, is to properly condition all the material in an atmosphere either precisely or nearly of standard properties.

Measurement of Yarn Balance

In the case of plied and cabled yarns, the term "balance" has been applied to the property which such yarns often possess of preserving themselves in their final form without tendency to untwist or kink. This, of course, is accomplished by introducing into the single and ply yarn, and sometimes into the cable, sufficient twist of the correct hand to cause the yarn to hang quiescently in a loop even when the ends of the catenary are brought together. Measurement of yarn balance is a subject which is under investigation in various laboratories, and it is believed that soon an electrical method will be devised whereby the tendency to untwist can be accurately measured in such units as ounce-inches of torque, which would mark an important step forward. As this quantity approaches zero, the balance of the yarn will be more perfect. Such a quantity would be a valuable indication in setting up the proper amount of twist in a plied or cabled yarn.

Measurement of Corkscrew

It is a well-known fact that unless the tension is very carefully adjusted in plying yarns, the respective spirality of the same will not be identical. This means that certain yarns will lie comparatively straight in the ply, while the others are more or less twined about them. This, of course, causes a great loss in the strength of the material. Under tension, the plies will break in succession rather than simultaneously.

With the object of measuring scientifically this quantity, the apparatus shown in Fig. 1 was devised and used at the Institute laboratory. The head of a twist measurer is mounted upon a large flat board and one end

of the ply to be analyzed fixed to it. The other end of the board is mounted with a smooth brass rail which consists of a circular arc about the center of the twisting-head jaw. The strand to be analyzed is hung over this rail and a weight is applied to it, sufficient to keep it taut and uniform. The twisting head is manipulated to untwist the plies, and needles are used to remove entirely the twists and to isolate the plies. Each ply is then hung with a light weight in such a manner as to hang down over a piece of 0.1 in. plotting paper. If all the plies were of equal length, namely, if the spirality of them all had been identical, then the weights would all hang upon a horizontally straight line. This is practically never the case. Some of the plies are slightly corkscrew and therefore may be longer than others which are comparatively straight. With each ply suitably weighted, a pencil mark is made on the cross-section paper at the bottom of the pendant weight.

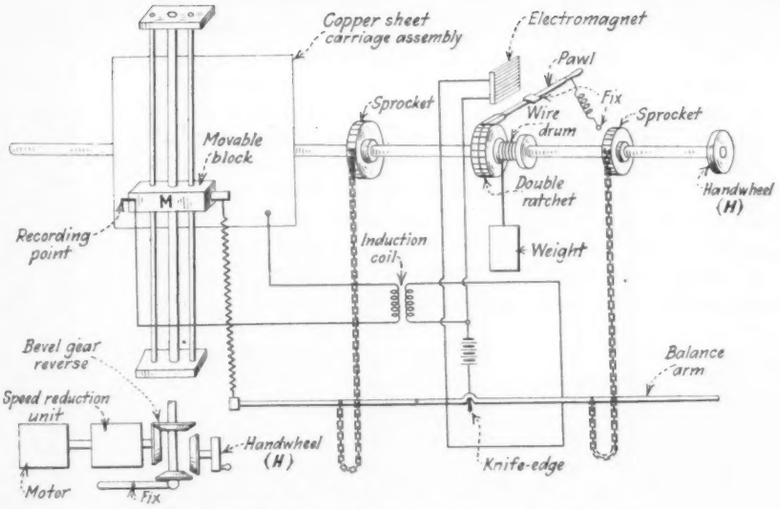


Fig. 3. Sketch of proposed autographic crimp tester

In order to compute mathematically the amount of this corkscrew, the following expedient has been adopted: Taking the highest weight as a zero quantity, the distance of all the other weights below it are read respectively and averaged. The line *cd* in Fig. 2 thus indicates the average position of all the weights and the extension of the cord upon untwisting if there were no corkscrew. Next, the deviation of each ply from this average is read, recorded and averaged. The average deviation divided by the original length of the cord from the twisting jaw to the rail, 60 in., is then used as a basis for determining the average per cent of corkscrew.

Crimp Determination

The question of crimp or sinuosity of yarns in fabrics has long been one of great interest. The sketch in Fig. 3 shows a proposed autographic crimp tester which is at present under consideration at the Institute laboratory. A very light balance arm of duralumin is supported upon a knife edge. Equally spaced from the knife edge are two hanging chains, each attached to a chain sprocket. These chains are very accurately of the same weight per foot, and are unwound from the sprockets by the action of a pendent weight and double-tooth ratchet. The ratchet is released slowly and uniformly by the action of an electro-magnet. The upper end of the yarn in which the crimp is to be measured is clamped to a block which is elevated at a constant rate by a revolving screw. The bottom end of the yarn is clamped to the left end of the balance arm. The loads corresponding to the different elongations are then determined by this balance arm, the principle being that of differential chainomatic loading.

Whenever the equilibrium of the balance arm is disturbed by the force which is constantly stretching the yarn, a make-and-break electrical circuit allows more chain to be suspended on each end of the balance arm, but at different rates. The chain on the left-hand side is released at a faster rate than on the right. By this means a chainomatic differential is obtained which is highly desirable and sensitive in testing very light yarns such as rayons.

An electric spark recorder is used to obtain a record of the loads and corresponding stretches with as little friction as possible. A chart can thus be drawn of the typical crimp type, and this chart may be measured directly for any fabric whatever, just as readily as a stretch chart may be measured upon a tension machine. Fig. 4 shows a typical chart with the simple calculation necessary to measure the crimp. By using suitable chart paper, the crimp may be read directly upon a gage length of yarn of 10 in. The crimp is here 24%. It is believed that an instrument of this type would be of great use in many fabrics for resisting pressure, for it is in such that the variation of crimp or the off-square of the fabric is of the greatest importance.

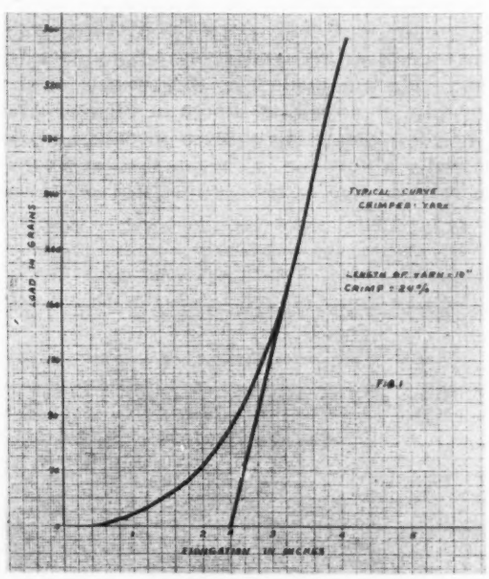


Fig. 4. Typical chart showing simple calculation necessary to measure crimp

Yarn Slippage

Certain fabrics depend for their excellence upon their integrity of position in the warp and filling yarns. The question often arises: How can the resistance to yarn slippage be measured in fabrics? This has been attempted in the Institute laboratory by the use of an ordinary vertical fabric-testing machine and stretch recorder, but with the sample prepared in a novel manner. Let it be assumed that the slippage of the warp threads through the filling is desired. An ordinary warp strip sample 1 in. wide is prepared and raveled as usual.

The filling is also raveled down into the strip sample to a distance of at least 1 in. In raveling the filling, a fine needle is inserted along one filling thread, which separates all the up-and-down warp threads for that pick of the loom. The up threads are cut off, thus leaving one-half the warp threads undisturbed. At the other end of the sample, the same process is carried out, being careful to cut off the warp threads corresponding to those which were not cut at the top of the sample. This leaves a strip sample with raveled ends at top and bottom, the body of the goods being made up of threads interlaced for 3 in., but cut off before clamping into the jaw. Such a sample is tested in the ordinary machine, as if for strength. The yarns slip by one another and the reading of the machine dial is simply the force necessary to produce yarn slippage in a length of 3 in. and a width of 1 in. The stretch chart, Fig. 5, drawn for such a specimen, consists of a portion *ab* indicating the increase of the load before slippage takes place, a point *b* where the slippage begins, a portion *bc* where the slippage is progressing, and a point *c* where the entire dissociation of the threads takes place. Such a diagram presents large possibilities for the study of loom tensions, friction of yarn, and general liability of threads in the fabric to be displaced.

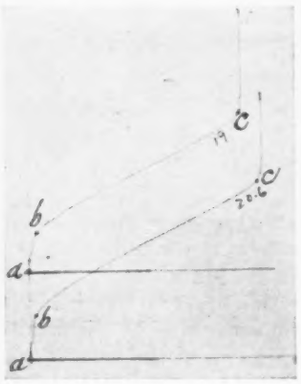


Fig. 5. Stretch chart for showing yarn slippage

Porosity

In Fig. 6 is illustrated a machine designed and built by the speaker for measuring the porosity in paper makers' felts. This machine has been used for a wide variety of fabrics, ranging from thin felts to heavy insulating jackets. By this means, the porosity of two fabrics can be compared, and fabrics may be designed to secure a given degree of porosity. [This apparatus was described in the Jan. 10, 1925, issue of TEXTILE WORLD.—*Editor.*]

Absorbability

Certain fabrics are designed to be highly absorbent, taking up water and other liquids with avidity. The measurement of absorbability is divided into: (a) total capacity, and (b) rate of absorption.

The total capacity of fabrics is easily measured by immersion for a definite time in the liquid under question at a given temperature. The weight of the fabric before and after immersion gives, by subtraction, the total amount of the liquid absorbed. This may be rated to the bone-dry weight of the fabric, in order to establish a percentage of total absorption.

Generally, the rate of absorption is of much more importance. To measure this quantity, the apparatus illustration in Fig. 7 has been constructed. It consists of a ground-glass-topped table suitably illuminated from beneath for visibility. The fabric to be tested should first be boiled off by the diastafor method to remove the starch, sizing, or other foreign materials in it. After this, the fabric should be pressed, to give a smooth accurate surface. From the various fabrics to be compared, strip samples should be cut from selvage to selvage 1 in. wide. These should be accurately gaged to a width of 1 in., and care should be taken that no threads are raveled or allowed to hang. At the left end of the table a photograph tray is located in an inclined position so as to be filled brimming full of water to the edge. The samples to be tested for rate of absorption are immersed simultaneously under definite tension in this tray full of water. The temperature of the water should be 70° F. Between the various strips of fabric stretched across the top of the illuminated table, scales in tenths of an inch are attached to the ground-glass. The progress of the water absorption along these strips will be perfectly evident, and by means of a stop watch the extent of the absorption may be measured and recorded at definite intervals of time. Having made this determination, the results may readily be plotted, as shown in Fig. 8. The coordinates of the plot are the time in seconds and the extent of the water absorption. This method gives a fair gage of the relative rate of absorption between fabrics.

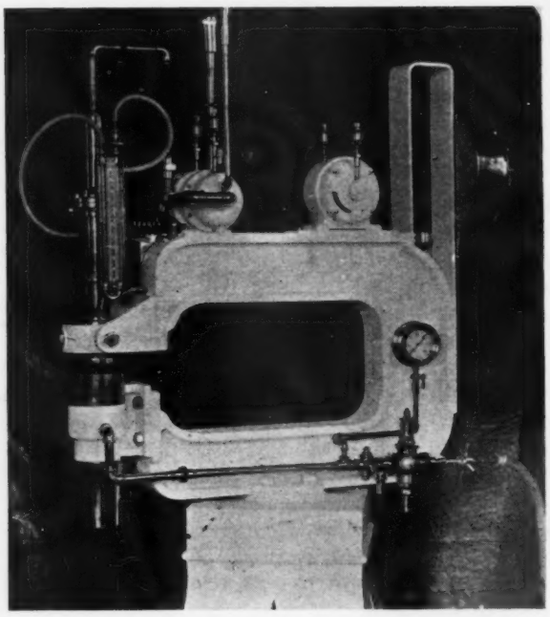


Fig. 6. Machine for measuring porosity of fabrics

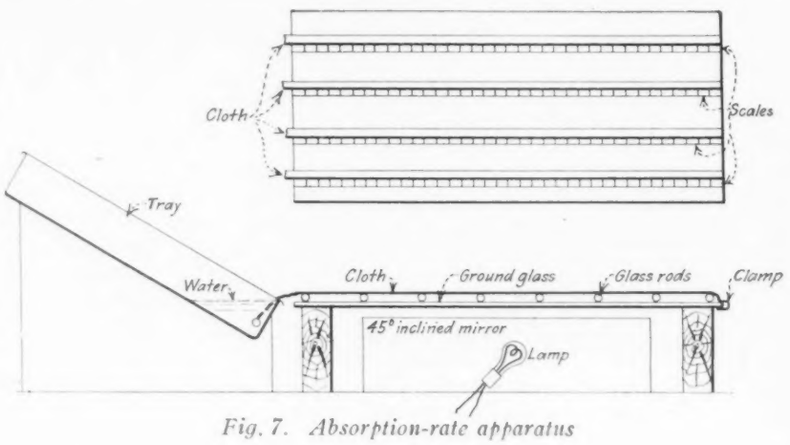
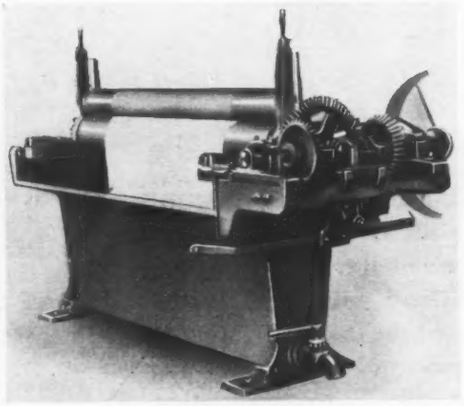


Fig. 7. Absorption-rate apparatus

Careful Choice of Equipment Essential in

Dyeing of Acetate Fabrics

By W. Gordon Young



Modern type of jig developed for dyeing fabrics containing rayon and other synthetic fibers

CHOOSING of equipment for dyeing fabrics containing acetate yarn is one of the things that must be done carefully if the dyeing is to be successful and profitable. It is not sufficient to order so many winches and jigs, and a mangle or two. Consideration must be given to what types of fabric are to be used, and what machines are best suited for dyeing these types.

In outlining the machinery requirements, we shall assume that all the fabrics are to contain acetate yarn. Some of the goods, however, may be mixtures of real silk with the acetate; and some, unions of cotton with this synthetic fiber. The following constructions may be considered as representative of the goods to be dyed: all-acetate foulards, satins, voiles, crepes, and knit goods; crepes, crepe-back satins, and georgettes of real silk mixed with the acetate, cotton-acetate crepes; cotton-back satin with an acetate face; and acetate hosiery with cotton reinforcements.

All-acetate fabrics do not need degumming, since a mild scour, in the dyeing machine, before dyeing, is all that is required to prepare piece goods of this sort for dyeing. Again, cotton-acetate mixtures will require only a scour to remove oil, dirt, and other foreign matter before they are ready for the dyestuffs. Fabrics containing real silk must be degummed; and for that purpose boil-off vats, similar to those designed for all-silk goods, are suitable.

Then comes the question as to what dyeing machines will be required. Winches, or reel machines, being the ones most commonly used, will be the first type that will come to mind. Undoubtedly they can be used for some fabrics, but not for all. All-acetate fabrics, such as crepes and knitted goods, can be dyed on the winches; silk-acetate mixtures, such as crepes, georgettes, and crepe-back satins, also may be processed on the winches; but all-acetate satins, and foulards, and cotton-acetate mixtures should not be dyed on these machines. It is quite widely recognized that certain fabrics containing acetate yarn crease readily during dyeing. Therefore precautions must be taken with these goods to insure their being dyed without the formation of permanent creases. To prevent creasing, all-acetate crepes may be wet out thoroughly in rope form before being loaded on the winches; and warp-knit fabrics, also constructed solely of acetate yarn, may be left overnight in an ordinary scour bath in rolls, just as they come from the knitting machines.

In the case of very light crepes, it frequently happens that the goods develop a large number of soft creases. To avoid this, the fabric is usually batched on rolls immediately after scouring (or boiling off, if there is real silk in it) and allowed to stay that way for a day or two before it is put on the winch.

Until some method of pre-treatment is developed for acetate-cotton mixtures, and for all-acetate satins and foulards, the most satisfactory machine to use is the jig. With these fabrics, therefore, it is primarily dependent on the ability of the man attending the machine whether or not there will be creases. Dyeing of these goods on the jig is carried out in the same manner as dyeing of other fabrics, except that end-cloths of the same type of fabric should be used. If cotton were used for this purpose, it would become saturated with the dye liquor; and while the fabric being dyed was wound around the rolls the dye would go on the acetate yarn, and thus the ends of the fabric would be dyed deeper in shade than the rest.

Voiles, as a rule, cannot be dyed on jigs; and it has been found that when they are dyed on winches, the finished fabric is frequently a mass of creases. For these reasons it is often necessary to dye voiles in the following manner: Along the selvage a cotton tape is stitched, and by means of twine which is passed through this tape, the fabric is hung from sticks. The goods are then dyed in vats similar to those used for degumming silk. In fact, degumming vats which are not in use at the time are frequently used for dyeing voiles, although vats kept specially for that purpose are better.

For dyeing hosiery made of acetate yarn the rotary machine has been found satisfactory.

To partially dry the fabrics before they are tentered, three machines are commonly employed—the centrifugal extractor, the vacuum extractor, and the mangle. It is often a matter of personal preference as to which of the first two will be used for most of the fabrics dyed on the winch, although for knitted fabrics it is necessary to use the first type. When it can be employed the vacuum machine usually gives more even drying. A full-width centrifugal extractor designed especially for rolls takes care of the fabric dyed on jigs, and partially dries it in an excellent manner. A mangle, although a useful machine to have in a dyehouse, should never be used for mangling acetate fabrics to remove excess moisture. At times it is successfully employed for padding a fabric with some special liquor before it is dyed; but generally, if the fabric, in a moist state, is passed between two rollers, the fiber is liable to be damaged.

The Kendall Co. Emphasizes

Preventive Measures in Its M

In the accompanying article, which is based on an interview with L. H. Ballou, Vice-President of The Kendall Co., by James A. Austin, New England editor, TEXTILE WORLD, are outlined the factors relating to the physical equipment of a mill which the management must take into consideration if the plant is to be perpetuated. It is pointed out that preventive maintenance, corrective maintenance, and machinery replacement are among the most important of these factors.

IN ORDER to perpetuate a plant's existence, management must recognize certain factors relating to physical equipment: First, Wear and tear constantly take place. Their effects are in part correctible through *maintenance;* Second, Part of the effect of wear and tear cannot be corrected and this must be considered in terms of *depreciation;* Third, Changes in the art take place, which must be covered by recognition of *obsolescence,* which is one factor of depreciation. This is the most elusive of the three. At times it takes place with almost incredible rapidity; in other periods, at a more moderate rate of speed, depending on the progress of invention and development.

Maintenance may be of two types—corrective and preventive. The corrective type waits for defects, weaknesses, and breakdowns to happen and then repairs them. Preventive maintenance tries, as far as possible, to anticipate trouble. Obviously, certain breakdowns will occur that cannot be foreseen and provided for, no matter how carefully the maintenance has been carried on, but such breakdowns can be kept at the minimum because of the fact that they have been anticipated. The preventive type of maintenance is advantageous because, for one reason, it catches defects when they are small and require a minimum amount of work to correct. Furthermore, preventive maintenance permits doing the work at a time that is most convenient, without interruptions to production; also, it facilitates orderly handling of the maintenance organization in allocating the work.

Detects Trouble at Start

Preventive maintenance might be likened to the periodic trips to the dentist which have become habitual with a great many people. Once every three months, or perhaps twice a year, these believers in preventive treatment of teeth visit their dentists even though unaware that anything is wrong. Often, merely a cleaning is necessary. Sometimes a small cavity may be discovered in the course of the dentist's inspection. If such is the case, not only is the cleaning done, but the cavity, which may be little more than pin-prick size, is filled at once and without undue pain to the nerves or to the pocketbook. Had preventive practice not been followed and the teeth neglected until an acute condition announced itself by various unpleasant signs, the corrective treatment would have been more unpleasant both in the degree of pain and in the bill for services.

Just so, in preventive maintenance of plant equipment, defects in mechanism are caught in their pin-point stage and before they have had opportunity to enlarge or, in turn, to create other defects or weaknesses. During the course of inspection, for example, a gear bearing may be found to be worn. Had it not been discovered, the defect might have resulted in the stripping of a group of gears.

Corrective maintenance will, of course, have a place in the preventive maintenance picture, for no matter how carefully the preventive principles may have been applied, unforeseen breaks occasionally will happen. And they must be taken care of promptly at the time of the event. The relation of the corrective type to the preventive type of maintenance is not unlike the fire situation. A well-run plant takes all possible safeguards against fire. Premises are examined by delegated employees and at frequent intervals by trained outside engineers. These trained inspectors detect things that may have been overlooked by the local inspector. In spite of these safeguards, the occasional fire occurs, yet there is no doubt whatever that preventive measures have reduced fire losses.

Must Be Systematic

In order for preventive maintenance to be successful, it must be conducted in an orderly, systematic way. It is desirable for the inspector to be provided with information in convenient form so that he will check those things that may be potential sources of trouble. He will make a general inspection of the whole equipment as a matter of course; but when equipped with specific information, he will give particular attention to those parts that are itemized. If later defects appear, that have not been on his itemized list, they may be the basis for adding newly discovered items, thereby providing one more safeguard for the prevention program. No inspection list should be looked upon as something fixed and rigid, but rather as the sum total of what experience to date has demonstrated as sufficient for needs. The sound viewpoint provides for adding to the inspection list as experience dictates. Printed forms are a convenience

ts Maintenance Program

as a reminder to the inspector of points to be covered. They also are helpful in reporting places needing attention, and they have usefulness for the records.

Forms, however, are not the essence of preventive maintenance. Its core and substance are the *spirit*. No form will do a job. It may be useful, but it cannot substitute for the intent and attitude in any plan. Preventive maintenance is a "big idea." It means doing it before you have to. Unless the big idea takes hold of those concerned, and dominates the program, forms and routine will fall to the ground.

In spite of the best of maintenance, depreciation always is going on. Provision for depreciation must be made in the accounting; recognition there being given to the fact that capital, in the form of equipment, is becoming depleted by the processes of time. Suitable rates must be set up to absorb the value of the various pieces of equipment during their expected life. Experience within an industry is a valuable guide in setting such rates, but their final determination must be tempered by conditions within the individual plant, which are peculiar and variable to the local situation. Equipment operating in departments where there is a great real of moisture, steam or chemical action or where there are abnormally dry conditions will probably carry a higher depreciation rate than equipment in normal temperatures and humidities and not subject to heavy strain.

Factors Causing Obsolescence

The third factor unceasingly at work is obsolescence. In newer industries its rate is rapid. In older industries it travels a slower pace. But when developments come in the older industry, they may be more upsetting and far-reaching, because they have not been anticipated. It is dangerous to fail to recognize obsolescence as it occurs due to the development of more productive and better equipment. The industrialist continually is confronted with the necessity of deciding whether or not the old machinery should be discarded and newer purchased. Sometimes the conclusion is so obvious, because of the outstanding advantage of the new, that there is no question. At other times, it becomes a matter for mathematical calculations involving appraisals of values of floor space and other items. In other instances intangible factors, such as quality or appearance, which cannot be measured mathematically, may tip the scales.

Initiation of proposed new equipment may come from various branches of the business. The plant engineer may see, in a new machine or piece of equipment, an economy in steam or in power, or a substantially reduced maintenance cost. Or one of the branches of the production organization may be under pressure to supply increased demand for a product and may visualize equipment which would justify an investment because of its ability to turn out in quantity the production formerly got by hand in small volume. Or the sales department may find that a market advantage may be gained by a change in design, which in turn impinges upon the production department and calls for investigation of any equipment available which might help secure the result needed to meet the sales department's desires.

Of primary importance are the open mind, the questioning attitude. Not only are they the prerequisites of a sound maintenance program, but they are equally essential in the less ponderable equipment problems involved in depreciation and obsolescence.

A progressive equipment policy is exemplified by this modern power plant of Slatersville Finishing Co., a unit of the Kendall Co.

Intensive Research Promises Better Rayon

By A. J. Hall, B.Sc., F. I. C., F. T. I.

Recent studies in the realm of cellulose chemistry have given a new concept of the principles involved in the manufacture of rayon. Continued research will enable production of synthetic fibers far superior to any now on the market. Mr. Hall, who, as chief chemist of the Silver Springs Bleaching & Dyeing Co., Ltd., and textile consultant to the Atlas Artificial Silk Processes, Ltd., is experienced in both the manufacture and processing of rayon, discusses some of the recent investigations and forecasts the results to be expected from further work in the same direction.

RECENTLY a considerable amount of research has been carried out on cellulose and the various processes by which it can be converted into synthetic fibers. Rayon manufacture is no longer the "pig in a poke" business that it used to be for the new knowledge with which it is proposed to deal in this article has made rayon production better understood alike by those within and without the rayon industry.

For the manufacture of ordinary viscose rayon the selection of the cellulose used as raw material is an important matter, although it may be noted that Lilienfeld has indicated that this choice is less important in the production of Lilienfeld rayon. The writer has seen different types of wood and cotton cellulose pulps and the corresponding viscose rayons produced from them in which the properties of the pulps are so faithfully reflected in the rayon that it is impossible to resist the conclusion that the manufacturing stages cannot eliminate certain original properties of the raw material.

Rayon and Its Raw Materials

A discolored pulp will produce a discolored rayon in spite of strong bleaching of the latter; a soft-handling sheet of pulp is found to give a soft-handling rayon; and the property of strength appears to be transmitted to the resulting rayon. This relation between raw material and rayon is apparently independent of the purity of the raw material; celluloses of equal purity do not necessarily give rayons of the same properties. It is known that there are more fundamental differences between celluloses apart from their purity and it is probable that these differences must ultimately be traced to the conditions of growth, as reflected in the fine structure of the resulting cellulose.

On these grounds it is not reasonable to expect a pure cellulose isolated from an annual growth, such as straw or cotton, to have the same properties and fine structure as a pure cellulose obtained from wood which requires many years' growth. Differences in fine structure are revealed to a large extent by the viscosity of the cellulose when in the form of one or other of its derivatives. The results of Lottermoser and Radestock obtained with various cellulose raw materials used in rayon manufacture are particularly interesting in this connection. In obtaining these results 1 gram of air-dried cellulose was treated with 17½% caustic-soda, then pressed so that the cellulose contained three times its own weight of liquor; 2 c.c. of carbon disulfide was added. After mixing and standing for six to eight hours until no fiber structure remained, the product (cellulose xanthate) was dissolved to 200 c.c., and the viscosity of this solution determined by the Ostwald method. It would be anticipated that identical celluloses would yield solutions having the same viscosity and this was confined by experiment.

Research on the Acetates

The influence of the cellulose used as a raw material can also be clearly seen in the manufacture of cellulose acetate. All manufacturers of this type of yarn employ cotton cellulose in preference to wood pulp. Recently Ohl has compared cellulose acetates made similarly from wood and cotton celluloses. His results are interesting in that they reveal not only large differences in the resulting rayons, but also in the behavior of the spinning solutions. For example, 20% solutions in acetone were allowed to ripen at ordinary temperature and the viscosities periodically determined.

Depending on the period of ripening, wood pulp

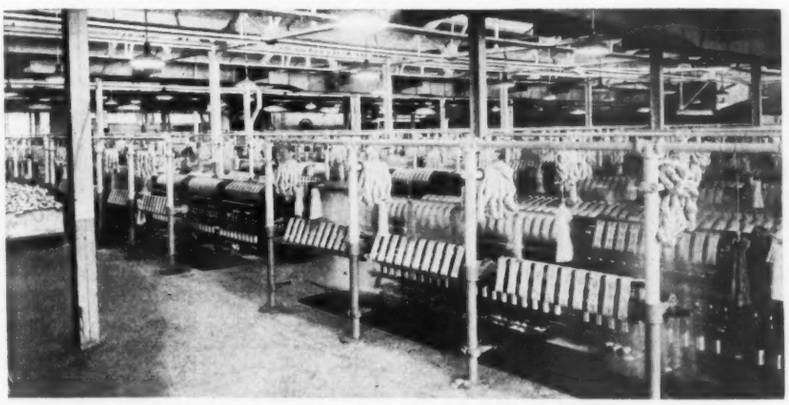
Continuing research in the laboratory will improve the quality of rayon

acetate had a viscosity of 86 to 88 seconds and cotton acetate a viscosity of 212 to 280 seconds. After spinning, the resulting rayons had the following properties:

	Wood-pulp acetate	Cotton acetate
Tensile strength per 100 denier	68.5 grams	195 grams
Extensibility	22%	8%
Elasticity	4%	90.5%

These results support manufacturing experience that cotton cellulose is the better raw material to use for cellulose acetate yarns.

Having selected a particular type of cellulose as the raw material for rayon manufacture, it is then possible to treat it in various ways in the many stages through which it passes while undergoing conversion into rayon, with corresponding effect on the properties of rayon produced from it. Considered briefly, it may be stated that rayon manufacture consists of disintegrating masses of cellulose into the cellulose particles (also called micelles) of which it is composed, dispersing these uniformly in a solution, and then by suitable spinning operations bringing these miscelles together in the form of fibers. It is just a case of manipulating micelles.



A reeling room where rayon is put in skein form

In the raw material the micelles may be clustered together in groups which are too large to allow uniform dispersion into a spinning solution; the manufacturing process must then be conducted so that the micelle size is suitably reduced. Or it may be that the micelles themselves are too large; in that case the micelles must be attacked in order to decrease their size. The extent to which these changes are desirable depends to some extent on the nature of the manufacturing process. Thus it is that different conditions of treatment are followed in the various rayon manufacturing plants. Generally, however, it is recognized that if the highest quality of rayon is to be produced the manufacture must be carried out in such a manner that the minimum reduction of the size of the micelles and their groups is required.

In the manufacture of cellulose acetate it appears that the maximum reduction in the complexity of the micelle structure of the cellulose used occurs in the acetylation process, this reduction being the result of attack by the organic and mineral acids used in the acetylating mixture. According to the investigations of Heuser and Schuster, the greatest amount of degradation in the viscose process occurs in the ageing of the alkali-cellulose previous to its conversion into cellulose xanthate. It is possible, however, in nearly all of the viscose processes to modify the micelle structure of the cellulose and thus affect the manufacture; and this fact is very strikingly supported by some results obtained by Lottermoser and Radestock.

The first stage in the manufacture of viscose rayon consists of steeping cellulose in sheet form in caustic soda of about 17½%, whereby alkali-cellulose is formed. This is then shredded into crumbs which are afterwards aged by standing for about three days while exposed to air at ordinary temperature. During the treatment with caustic soda solution and the subsequent ageing the cellulose micelle structure undergoes changes favorable to the manufacture, and these changes can be followed by viscosity measurements.

Time and Concentration

The period of steeping in caustic soda is of importance, as well as the concentration of alkali employed. The viscosity of the resulting viscose solutions decreases with increase in the concentration of caustic soda employed in the preparation of the alkali-cellulose. Since the highest viscosity is obtained with caustic soda of about 17½%, this is the concentration used in actual manufacture. Curiously enough, caustic soda of about 12% exerts the maximum swelling action on cotton cellulose; but if cotton is so treated, it is found almost impossible to convert it into a soluble cellulose xanthate.

The period of steeping in alkali must not be less than a certain minimum, and this period depends on the concentration of the alkali solution; the more the concentration exceeds 17½%, the longer the period of steeping required. In manufacture two to four hours is allowed, and this agrees with the results of Lottermoser and Radestock which indicate that only with a few types of cellulose can the period be reduced below 2 hours and obtain satisfactory formation of cellulose xanthate.

Rassow has stated that during ageing of the alkali-cellulose the oxidation which ensues under manufacturing conditions is so small that no material changes occurs in the copper number of the cellulose. Studies by Heuser and Schuster indicate that some changes do take place as is shown by the lowering of viscosity of cotton.

The above considerations are especially concerned with the size of the cellulose micelle and micelle clusters in relation to the properties of rayon fibers. But recent researches show that the arrangement of the micelles in such fibers is almost of equal importance. Lilienfeld has recently stated that he believes the high strength of the special rayon known as Lilienfeld rayon is due to the fact that at the moment of coagulation in spinning the cellulose micelles are aligned parallel to the longitudinal axis of the fiber. The same explanation is given for the low extensibility of this type of rayon. The present author has stated also that he attributes the lack of softness and poor resistance to creasing of stretched viscose and cellulose-acetate yarns to the increased parallelism of the micelles as produced by stretching: he also correlates dyeing properties with micelle alignment.

Research on rayon must in the near future be largely directed along lines dealing with micelle size and micelle alignment because its properties depend largely on these factors. The question is often discussed whether rayon competes with cotton. The writer believes it does, and that by continuing researches, it is likely synthetic fibers will be so improved as to be superior to cotton.

Proper Application of

Thin-Boiling Starch in

By R. Cameron Whitney

Staley Sales Corp., Boston

WARP sizing is primarily a cementation process in which the fibers of the yarn are cemented together in order to increase the strength and smoothness of the yarn. In many instances the fibers are so tightly twisted together that it is difficult for a thick fluid to penetrate and fill the interstices. For such work a thin-boiling starch is superior to a thick boiling one on account of its high fluidity and better penetrating qualities.

Thin-boiling starches can be used in heavy concentrations, and at the same time be fluid enough to give excellent penetration and a good workable yarn. These starches because of their penetrating qualities, increase the strength of the yarn, reduce shedding and loom stoppage, and maintain their full strength until the batch is entirely used.

The making of size should not be done in the listless manner used by many dressers. Ingredients should be accurately weighed, and not dumped in by the pailful or shovelful. Definite results are desired, and therefore reasonable care should be exercised in making the mix.

In most instances live steam is used in cooking; consequently an allowance should be made for condensation when beginning the mix. First fill the kettle about two-thirds full of cold or lukewarm water, start the agitation, and add the entire amount of starch. If you are making a 200-gal. batch and are using 75 lb. of starch to 100 gal. of finished size, add 175 lb. of starch to about 135 gal. of water in the kettle; agitate thoroughly, making a smooth, milky solution; and then gradually turn on the steam.

Thorough Cooking Necessary

Be sure that the starch is thoroughly cooked and gelatinized. Thin-boiling starches should be boiled for at least 30 min. in order to break them down properly. Do not be misled at times and mistake the steam blowing through the heavy mass for the boiling process. If a temperature control is not attached to the cooking tank, take the temperature of the batch by means of a thermometer. The writer has seen instances where it was believed that the solution was boiling thoroughly; but when the temperature was taken, it was found to be seven or eight degrees below the boiling point.

After the batch has been thoroughly cooked, add the softener, bring the batch to the required volume, and again cook for 5 to 10 min. Some authorities believe that it is best to add the softener after the starch has been thoroughly gelatinized. Their contention is that if it is added earlier in the process, the grease forms a coating around some of the starch, keeping out the heat and preventing a thorough cooking.

It is well to caution against adding raw starch to a batch that is being cooked, in order to bring it up to a certain consistency. Starch added to hot or boiling water can never be thoroughly gelatinized. Globules of starch are formed that are cooked only on the outside and they can never be broken down, no matter how much cooking they are subjected to. These globules cause a great amount of shedding at the slasher and on the looms. They also cause no end of trouble in the weave room, increasing the number of loom stops and reducing production materially.

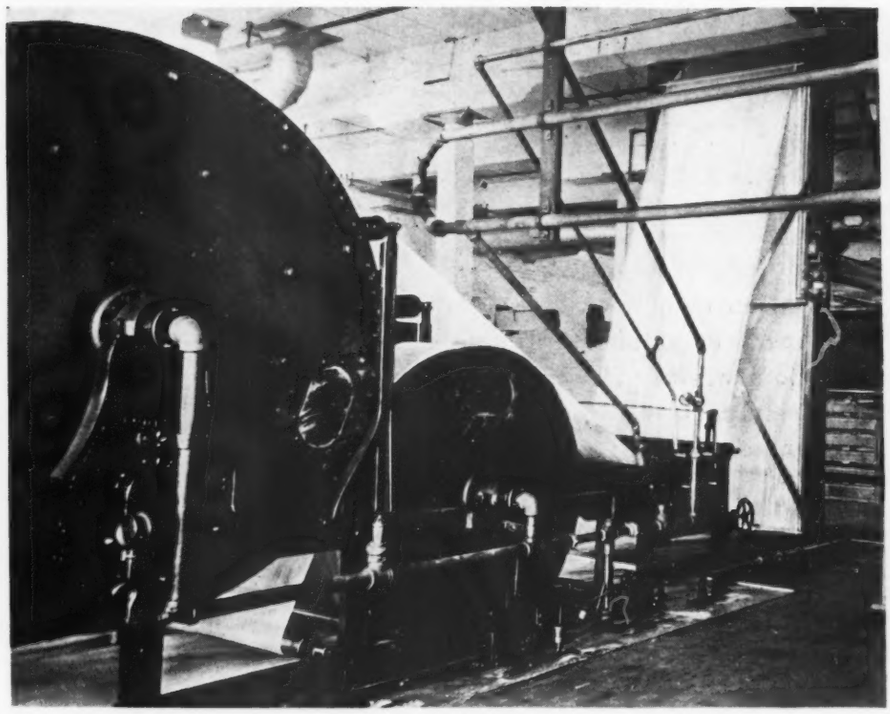
There seems to be no hard-and-fast rule regarding the amount of softener to be used; therefore each mill uses what it deems best. In Europe a great deal of research has been done along these lines, particularly in Great Britain. The British cotton Research Association found that up to 5% of softener did not appreciably reduce the adhesiveness of the starch, but beyond that figure there was a gradual reduction in the strength of the starch film. It is believed, however, that in batches where 1 lb. or more of starch is used to 1 gal. of size, the softener can be increased above 5% and the strength of the starch maintained.

Slashing Is Important Process

After a good sizing solution has been made, we look to the slasher to complete the work of sizing the warp. This is a large bulky, homely machine which at times seems to be kept running only because of precedent. Some mills place little importance on warp sizing, when as a matter of fact, it is one of the most important processes in the manufacture of textiles. Many mills have found after a time that their low production was due to poor dressing and not to poor spinning and weaving.

How many times have we seen a mill dressing a heavy set when the warp was literally pulling the drying cylinder? Between the size box and the drying cylinder the yarn was as tight as a piano string and was badly stretched while thoroughly drenched with size. After passing over the drying cylinders, the warp shrank considerably because it was dried under tension and lost a great amount of strength and elasticity. Breaking tests made with such yarn showed it to be no stronger than the unsized. The slasher should be so geared that there is no strain on the warp and at the same time no whip or slack between the size box and the cylinder. A poorly spun yarn if well dressed will give better results on the loom than a well-spun yarn poorly dressed.

Slashing



Important factors in warp sizing are judicious selection and proper application of the starch

Give proper attention to slashing, and weaving costs will be greatly reduced.

One of the important parts of the slasher is the squeeze roll. This roll forces the starch into the warp; and the weight of this roll should correspond to the set. Theoretically a mill should have a squeeze roll of different weight for each set, but such a procedure would be expensive. A safe rule to follow is to have a roll on the slasher of sufficient weight to take care of the heaviest set. Multiply the square root of the weight of 1 yd. of warp by 1,000 to find the correct weight of the squeeze roll.

Heavy Set Needs More Size

It goes without saying that a heavy set cannot be properly sized as quickly as a light one. The heavy set needs more size than a light one, and consequently, a longer time in the size box and on the drying cylinders. A set of 4,000 ends of 20s yarn in which we wish 10% of size will take a longer time on the slasher than a set of 5,860 ends of 40s yarn. The slasher production should always be figured if there is any great change made in the number of ends or the count of the yarn when laying in a new set.

The warp should be well immersed in the size box and the temperature at this point maintained between 190 and 195° F.

Breaking tests should not be taken as the final word in passing judgment on a sized warp, but they can be used as a means to an end rather than an end in themselves. If several skeins are reeled off as the yarn comes through the slasher and these broken on the tensile-strength testing machine, one can learn to some degree just how the size is going to work. If a mill has a single-strand breaking machine, this can be used in conjunction with the skein machine when doing research work.

An important point to note in addition to the increase in breaking strength of the yarn is the reduction in elasticity. Because of the nature of starch, it will reduce the elasticity of the yarn; nevertheless the mill should endeavor to retain as much elasticity as possible in the sized warp. A yarn with a reasonable amount of stretch is going to give much better results on the looms than one with practically no elasticity and greater strength.

Sizing Influences Elasticity

Cotton yarns ranging between 20s and 30s have an elasticity ranging from 4.5 to 5%. As the count of the yarn increases, the elasticity diminishes; and we find that yarns ranging between 60s and 80s have an elasticity of 3.5 to 3.8%, and those above 120s range between 2 and 3%. A good sizing starch should reduce the elasticity of a yarn not more than 20 or 25%.

In the tests listed below it can readily be seen that the starch was used in varying amounts ranging from 75 to 80 lb. to 100 gal. of finished size. On heavy and difficult weaves, such as 128 sley and 130 pick, at least 1 lb. of starch was used to 1 gal. of finished size. It is false economy to curtail on the amount of starch used, when it is the most important ingredient of the mix, and next to water, the cheapest.

In sizing a 22s yarn the following formula was used: 280 lb. of thin-boiling starch and 14 lb. of softener made up to 365 gal. The average regain in breaking strength of the sized yarn over the unsized yarn was 31%.

In sizing a 30s yarn of 2,178 ends the following formula was used: 300 lb. of thin-boiling starch and 20 lb. of softener made up to 365 gal. The regain in breaking strength of the sized yarn over the unsized yarn was 34%.

Warp sizing today is a definite process in the manufacture of textiles and should be given serious consideration by agent and superintendent alike. In many instances poor weaving and low production are due to improper slashing and poor size, and not to poorly spun yarn and the looms.

OVERSEERS' ROUND-TABLE

THIS department offers a new subject for discussion each week and gives readers' comments on problems introduced during previous weeks. The subject which was opened four weeks ago is closed this week and a summary of contributed ideas is given on opposite page

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Wages vs. Mill Operation

Editor, Overseers' Round-Table:

I AM strongly opposed to the policy of cutting wages as an emergency measure to keep a factory running full time during a period of industrial depression.

While some temporary benefit may accrue to both the employer and employee by such action it would only be at the expense of other employers and employees in the industry. And what was intended only as a temporary reduction will become a permanent wage scale when other units in the industry make reductions, as they will be forced to do if they are to retain their share of the current business.

The probable unfavorable reaction to such a program far outweighs any immediate advantages. J. R. COOK.

Editor, Overseers' Round-Table:

THE WORKERS should accept a wage reduction if the mill promises steady work for a few months. What is the result if they do not accept? Bills piling up, homes lost, etc.

There is hardly a mill that will cut unless it is necessary. I have seen mills take orders at a loss just to keep the workers employed steadily.

In my opinion, Pete has not had to bear up under much or he would not be so radical in his views on wage reductions. It is far better to be working today, and counting on the future which seems bright for the textile worker.

JOHN PICONE.

Hiring a Discharged Employee

Editor, Overseers' Round-Table:

MY PERSONAL convictions are that under certain circumstances a man should be given a second chance. As I see it, a man would be acting in sheer folly to refuse to hire a good man just because he had been fired once.

There are many men, like the one Hank describes, who are egotists and need just this kind of a jolt to bring them to their senses. With an intelligent man a jolt of this kind usually turns the trick and it has been my experience that a good man who has been fired and re-hired often makes the most valuable employee.

I agree with Bill that discharging is a serious thing, but just because you rehire a few good men is no reason why the workers should jump to the conclusion that firing does not mean anything. G. G. HURD

Editor, Overseers' Round-Table:

I BELIEVE in re-hiring a discharged worker unless I have discharged him, or her, for being a labor agitator.

There are times when you will discharge an operator and later find out that the worker was not really to blame for the trouble. In this case should the overseer hold the hammer over the worker's head just because he has discharged him or her? I say, "No." We are all human and should live and let live.

An overseer in a mill situated in a large city could get away with not re-hiring his discharged help for awhile, but it would not be long before he got a black eye with the workers. And then how about a small town where there is only enough experienced help to run the mill?

A man who can manage help to good advantage is what I call a good overseer. There are too many overseers who think that just because they are boss the help should manage themselves.

I have a worker I can go to and say, "John, you've got to work overtime tonight," and John will say, "O.K."

About Running Small Sto

"I WENT in and told the treasurer all about the Spirit of Christmas," Superintendent Chase grinned, "and he loosened up and bought us this large box of cigars and this box of candy. Then the president kicked through and said to have the meeting down here at the club instead of at the mill so we could have a bit to eat after we discussed the affairs of the nation. Dive into the cigars and candy. Now, I think that I have done my share for this meeting so some one of you will have to start the discussion."

"This candy," Andy spoke with difficulty through a mouthful, "reminds me of the old problem of allowing candy to be sold in the mill. Every once in a while someone sets up a stand in a mill and sells candy, chewing tobacco, cookies and such things. I've been wondering whether it is a good or bad thing."

"Now I'll tell a story, if you want me to," Bill looked around. "Since you insist," he continued as nothing but groans greeted him, "I'll oblige. I worked in a mill where men in different departments found it possible to pick up a little money on the side by running a stand such as Andy speaks of. One lad who chased orders around the mill was sort of a traveling store and did a rushing business, sometimes making as much as $15 a week. Well, it wasn't long before these big business men found they could do a bigger business by granting credit so they had little books with the names of folks that owed the stand money written down. Pretty soon they had to spend most of their time running around trying to collect. And pretty soon others thought they'd get in on the easy money and set up competing stands. Then there were squabbles and stories of one man sneaking around and kicking his competitor's stand over. About this time the management stepped in and said that the whole thing was being abused and the stands would have to close up. However, a little later when everyone

Stores in the Mill

had forgotten, stands would start up again and the whole thing would be gone through again."

"The moral of this tale which you have been so lucky to hear," Bill went on, "is to have an absolute rule against selling anything in the mill. Enforce the rule absolutely and you'll save a lot of trouble."

"Now," Pete laughed, "I'll finish the story. When Bill got fired from that mill because he took candy away from the operatives and ate it himself, I got the job. Being a wise lad I knew that you couldn't stop people being hungry at times and wanting a bit of candy or something. I also knew that candy would be bootlegged if it wasn't sold in the open. So I got the company to buy some vending machines to sell candy, chewing gum, and so forth, and had them put in the different departments. Any profits went to some charity. Gentlemen, I ask you, wasn't that a good plan?"

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Do *you* think that operatives should be allowed to run candy stands in the plant, that they should be absolutely forbidden, or that the company should run them?

Overseers and others are invited to discuss this and other questions brought up in the super's talks. Letters accepted and published will be paid for without regard to length. Brevity is desirable.

If I said it to James in the same words he might answer, "No overtime for me tonight." But if I said, "James, I would like you to stay and take that cut off as they want to ship it out tomorrow," he would be willing to work all night to please me. CHARLES.

Editor, Overseers' Round-Table:

A DISCHARGE should be the last resort in restoring discipline. It is the most important weapon that the employer has over his employees and it should not be abused or used carelessly so that its true meaning is dulled. The employees should always fear and respect this privilege of the superior.

There are many other ways of punishing forceful enough to bring about a change in the average person. Of course, there are a few people who are so set or nonchalant that they cannot be changed by the greatest psychologists or the most powerful disciplinarian. For these there is only one resource left by which the desired result can be brought about and that is discharge—and let it be final. There should be no compromise after an employer has given a worker the "key to the street," unless it is desired to tear down the morale of the concern. "INCOGNITO."

Editor, Overseers' Round-Table:

THERE PROBABLY are exceptional cases where it may be advisable to rehire a person you have discharged, but as a general rule I would not consider it at all. You are only inviting trouble.

People seldom change their ways and you will find they will retain those very shortcomings you discharged them for. I believe a poor operator will stay that way, and you can usually tell if a person will be any good even while he is only learning the job. The same stands good for tardiness, smoking and other offences.

The chief question to consider is the prestige of your position, and you certainly lose some of it when you rehire discharged help. It is about on a par with petting a child after just punishing it. W.F.P.

Presents to Overseers

Editor, Overseers' Round-Table:

I MUST agree with Pete. I don't think that the help should be allowed to get together and give presents to their overseers, for the following reasons:

1. Many of the employees have large families and find it hard to make ends meet.
2. There may be some of the employees who do not approve of the practice and give unwillingly for fear that they would be criticised, or that the overseer would hold it against them.
3. It is possible that some of the help might expect special favors.
4. There might be an overseer who would not receive a present for one reason or another and he would be embarrassed.
5. Some overseers have more workers, and higher paid workers, and would thus receive costlier presents than the others.
6. If the overseer wished to return the favor it would be very costly.

I think that if the help run their jobs, are loyal and treat the overseer with respect he should be thankful and not expect anything more. L. A. ELMORE,
Overseer Carding, Rhodhiss Mills.

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Summary of Discussion on Re-hiring a Discharged Worker

The question of whether a discharged worker should ever be re-hired brought a large response and a marked difference of opinion. Those absolutely opposing re-hiring constituted 26.5% of the contributions, while almost the same identical percentage, 26.3%, believed that re-hiring was often advantageous. The remainder, 47.2%, were of the opinion that re-hiring should be done only in very rare, exceptional cases. Those opposing stated that a man should not be fired until every means of correction had been tried and in that case firing should be permanent, while those approving re-hiring in some cases stated that a hard and fast rule was often unjust.

NEWS about MEN

CHARLES A. CANNON, president of the Cannon Mills Co., of Kannapolis, N. C., will give his annual New Year's eve banquet in honor of Company E, 120th Infantry, at the Hotel Concord, at Concord, N. C., Dec. 31.

W. A. ERWIN, president of the Erwin Cotton Mills, Durham, N. C., has gone to California to spend several weeks.

JULES L. FOREMAN has been elected a director of the Onondaga Silk Corp., Syracuse, N. Y.

EX-SENATOR EZRA DIXON, president of the Dixon Lubricating Saddle Co., Bristol, R. I., is the youngest Civil War veteran in the state of Rhode Island. A clear claim to this distinction was established at a recent luncheon in which several department commanders of the G. A. R. participated. On the day of the luncheon, former Senator Dixon announced that he was celebrating his 81st birthday; the next youngest veteran is 82. It is understood that Mr. Dixon's claim also extends to Massachusetts.

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W. S. PEPPERELL, assistant treasurer of Grosvenor Dale Co., and treasurer of Warren Mfg. Co., has confirmed the reports that he had resigned these offices together with directorship in these companies, effective Dec. 31, 1930. Mr. Pepperell has been with the Grosvenor Dale Co. for the last nine years, the entire time as treasurer of the Warren Mfg. Co. He is president of Southern New England Textile Association, president of Cotton Waste Associates. He is also a director in the Cotton-Textile Institute. For 20 years previous to his joining the Grosvenor Dale Co., he was with the Draper Corp.

JOSEPH C. COBB, formerly secretary of the Southern Textile Association, Charlotte, N. C., but now representing Shambow Shuttle Co., and other manufacturers of mill supplies, and MISS MARGARET MCCASKILL, Greenville, S. C., were married Dec. 17.

FRANK J. HALE, for many years general agent and now vice-president in Saco-Lowell Shop, in honor of the 50th anniversary of his connection with the company, was presented with a silver smoking set at an informal dinner held Dec. 17, at the Pettee Inn, Newton Upper Falls, Mass. Many old-time employes as well as officials of the company were present to congratulate Mr. Hale on his long service.

ARTHUR D. WINDLE, treasurer of the A. D. Windle Co., Millbury, Mass., chairman of the selectmen of that town, announces he is not to be a candidate for re-election.

F. W. SMATHERS, secretary of the Wadesboro, N. C., chamber of commerce, will become connected with the American Enka Corp., at Enka, N. C., the first of the year.

G. B. HOWARD, secretary and assistant treasurer, Spencer Corp., Spindale, N. C., has been elected president of the Rutherford County (N. C.) Club.

W. S. Pepperell, who has resigned as assistant treasurer of the Grosvenor Dale Co., and treasurer of the Warren Mfg. Co.

At the annual meeting of Bruck Silk Mills, Ltd., held recently in Montreal, L. S. LEE, superintendent of the company's plant was appointed a director, succeeding A. G. YEOMAN, who recently resigned. The old directors who were re-elected were: D. W. PARTRIDGE, M. L. WILLIAMS, J. SHEVELL, F. G. BUSH, W. P. CREAGH, I. I. BRUCK, E. W. JACKSON and LT.-COL. C. N. MONSARRAT.

JOSEPH PERNICK, of Maspeth, L. I., dealer in textile machinery, and his wife are leaving for Cuba and other southern parts on Dec. 27. They expect to be away for several months.

V. M. MONTGOMERY, JR., assistant secretary and treasurer of the Gainesville (Ga.) Cotton Mills, has been elected a director of the Gainesville chamber of commerce.

MILTON BIRMAN of the sales department of the American Glanzstoff Corp., has been transferred to a similar position with the American Bemberg Corp., in New York.

ANDREW M. SMITH,, Chicago representative for the Duplan Silk Corp., for the last ten years, has resigned, effective at once. Prior to joining the Duplan company Mr. Smith was affiliated with the Stehli Silks Corp. for many years.

W. M. MCLAURINE, secretary of the American Cotton Manufacturers Association, was the principal speaker at the Christmas banquet given at Dunean Mills in Greenville, S. C., Dec. 18, which was attended by about 150 employes and executives of the plant.

C. W. ENSIGN, who is in charge of the selling office of Ensign Cotton Mills, Forsyth, Ga., with offices in New York, and MRS. ENSIGN have left for a two weeks' motor trip visiting Mr. Ensign's home at Forsyth and other points in the South.

A. STANLEY LLEWELLYN, manager, Wateree Mills of The Kendall Co., Camden, S. C., state commander of the American Legion, addressed the Greenville (S. C.) post of that organization Dec. 15.

LEON W. CAMPBELL, for many years general manager of the Woonsocket (R. I.) Machine & Press Co., is now associated with H. & B. American Machine Co., Pawtucket, R. I., in charge of development work.

J. E. CAMPBELL, formerly of the Russell Mfg. Co., Pittsfield, Mass., has been appointed designer with Auburn Mills, Dominion Woolens & Worsteds, Ltd., Peterboro.

CARL S. SALINGER, former paymaster at the Linwood (Mass.) Mill of Whitin Bros., Inc., is now located in Monson, Mass.

LEAVERNE LACKEY, cotton grader and classer of the federal department of agriculture, who has been stationed at the offices of the state warehouse commissioner in Columbia, S. C., since last September, has completed his work. During that time he had graded and classed free of any charge thousands of bales of cotton for South Carolina farmers and buyers.

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J. J. PEARCE has been made production manager for Springfield (Tenn.) Woolen Mills. Mr. Pearce is a descendant of the founder of the Pearce Mfg. Co., Latrobe, Pa., and was connected with that company for 25 years, during 12 of which he was general manager. He succeeds the late JULIAN TALIAFERRO, who died suddenly a few weeks ago.

RAYMOND SAWYER, of Fort Plain, N. Y., has assumed his new duties as the superintendent of the knitting department of the Dyersburg (Tenn.) Cotton Products Co.

JOHN S. KEEFE, president, and other officials of the American Steel & Wire Co., as well as officials of the U. S. Steel Corp., the parent organization, made an inspection of the works in the Worcester, Mass., district on Dec. 17. President Keefe was host at a luncheon to the industrial leaders of the city at the Worcester Club at noon, at which one of the speakers was DR. HOMER GAGE, president of the Crompton & Knowles Loom Works. JOHN F. TINSLEY, vice-president and general manager of the Crompton & Knowles Loom Works, accompanied the visiting officials on their tour of inspection, he having been superintendent of the South Works of the American Steel & Wire Co., before going to Crompton & Knowles.

HERBERT C. GATES, who recently became general superintendent of the Lawrence Mfg. Co., Lowell, Mass., has been succeeded as superintendent in the Ware Valley Mfg. Co., Ware, by JAMES F. NIELDS, JR., former superintendent and manager of the Birge Co., Bristol, Conn.

The following changes have become effective at the plant of the Enterprise (Ala.) Cotton Mills: G. W. MEDLOCK has resigned as night superintendent of spinning, and H. C. KNIGHT has been promoted to this position to succeed Mr. Medlock. B. H. MAYNARD, formerly of Nashville, Tenn., has been made superintendent of the day spinning department of this company. H. H. ELLINGTON, formerly of Knoxville, Tenn., has assumed his duties as superintendent of the night weaving department.

WILLIAM NEBEL, president and treasurer of the Nebel Hosiery Mills, Charlotte, N. C., entertained the employes, numbering about 250, at a most enjoyable turkey dinner after the plant closed down, Dec. 23, for the Christmas holidays. This has been the custom of Mr. Nebel for seven years.

PIERCE WILLIAMS, Albemarle, N. C., who has been in Australia for several months, has returned to Albemarle where he has again assumed his duties with the Wiscassett Mills, a position he formerly held and which he resigned to take the trip made in the interest of a textile manufacturing plant which had opened a branch plant in Australia.

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CHARLES F. HEAP, formerly superintendent of Lincoln Mfg. Co., Fall River, Mass., will on Jan. 1 become advisory superintendent of Massasoit Mfg. Co., Fall River.

L. C. HARMON, superintendent of plant No. 10, Cannon Mills, Concord, N. C., has been transferred to plant No. 6, of the same company in a similar capacity. He succeeds W. B. BRUTON.

J. B. HOTHENSALL has assumed his new duties as superintendent of the Cleveland Cloth Mills, Shelby, N. C.

C. C. ROBBINS, JR., has been made superintendent of the Robbins Knitting Co., High Point, N. C.

LOUIS H. TALCOTT, who since June, 1926, has been superintendent of the Pondicherry Woolen Mill, at Bridgton, Me., has been transferred to the Farnsworth Co., Lisbon Centre, Me. This mill specializes in flannels, shirtings and dress goods. Mr. Talcott will be succeeded at the Pondicherry mill by FRANK BARSTOW, Pittsfield, Mass.

WILLIAM MCCLOUD is now superintendent of the Houser Mfg. Co., Cherryville, N. C.

H. R. WILLIAMS has entered upon new duties as superintendent of the Harris & Covington Hosiery Mills, High Point, N. C.

WILLIAM A. MARTIN has resigned as overseer of weaving at the Nieber Mills, Inc., Worcester, Mass., to accept a similar position with the Coe Woolen Co., in the same city.

JOSEPH COTE, overseer of the cloth department of the Blackstone (Mass.) Mill of the Lonsdale (R. I.) Co., for the last 15 years, has resigned.

R. J. ADAMS, formerly of Opelika, Ala., is now overseer of the spinning department of the Central plant of the Avondale Mills, Sylacauga, Ala.

VICTOR JOHNSON, overseer of dyeing for the Jefferson (Mass.) Mfg. Co., has accepted a similar position with the Coe Woolen Co., Worcester, Mass.

Obituary

Alfred Crawford

Alfred Crawford, vice-president and treasurer, Boger & Crawford, Philadelphia, Pa., and Lincolnton, N. C., died Dec. 18 at his home in Norristown, Pa., after a brief illness. He was 44 years old. Mr. Crawford, who was one of the country's leading mercerizers, spent most of his life in the textile field. In partnership with Robert C. Boger, president of the firm, he started the business in a small way and it has grown without interruption. Many advances in manufacture have been announced by the firm, in which Mr. Crawford took an important part. Among these was the spinning for the first time on a commercial scale in this country of cotton yarns as fine as 200s. Mr. Crawford was widely known in knitting centers. He was vice-president of the Manton Mutual Life Insurance Co. and a director in the Atlantic Mutual Co. Surviving him are his widow, a son, one brother and his mother.

Grinnell Willis

Grinnell Willis, aged 82 years, philanthropist and founder of Grinnell Willis Co., New York, dry goods, died at his home in Morristown, N. J., on Dec. 20, after being ill for a week. After graduating from Harvard in 1870 Mr. Willis entered the dry goods business and then organized his own company from which he retired 15 years ago. The firm was succeeded by Watts, Stebbins & Co., and by Ridley Watts & Co. Mr. Willis was the donor of the Morristown Free Public Library. He was a member of the Morristown Club, Morris County Golf Club, and Pine Valley Club. He is survived by his widow, two daughters, a brother and a sister.

Norman A. Galt

Norman A. Galt, president and managing director of the Hampton Mfg. Co., Ltd., Montreal, Que., died at his home in Montreal recently. He was 51 years old, and was previously connected with G. H. Harrower & Co., which was taken over several years ago by Canadian Converters.

Alfred Crawford

Edward Hartley

Edward Hartley, for 18 years an overseer at the Linwood (Mass.) mill of Whitin Bros., Inc., and later with the Lockwood Co., Waterville, Me., died suddenly at his home in Waterville, Dec. 15. He was born in Clitheroe, England, June 18, 1875, and lived in this country about 50 years. He was a member of the Masonic fraternity. He leaves a widow, a daughter and a son. Burial was in Whitinsville, Mass.

David N. Mosessohn

David N. Mosessohn, executive chairman of the Associated Dress Industries of America and a foremost figure in the American clothing industry since he founded that association in 1918, died Tuesday evening at his home in New York City. He was 47 years old, and was a member of many sectarian and fraternal organizations. He started his career as a newspaper reporter in Oregon. Leading men in New York public life attended the funeral services, Thursday. Mr. Mosessohn is survived by his widow, a son, Boris, a recent graduate of the University of Michigan and Harvard University, and a brother, M. Mosessohn, executive chairman of the United Women's Wear League of America.

James Fagan

James Fagan, overseer of weaving at the former Hecla Mill of the American Woolen Co., Uxbridge, Mass., for 40 years until his retirement several years ago, died at his home there Dec. 16, following a brief illness. He was 83 years old, a native of Ireland and had lived in Uxbridge 45 years. He leaves three daughters.

Delbert A. McDowell

Delbert A. McDowell, aged 61 years, secretary-treasurer of the Merrill Silk Co., Hornell, N. Y., and connected with that concern for 20 years, died at his home there, Dec. 19. He was mayor of Hornell and prominently identified with social and fraternal organizations in southern New York.

A. C. Miller

A. C. Miller, 82 years old, retired textile manufacturer, died at his home in Shelby, N. C., Dec. 16, after a brief illness. He was buried in the Presbyterian church graveyard.

NEWS about MILLS

Cotton

Alabama Mills Co., Greenville, Ala., plant is now operating on a 55-hour per week day schedule and 50-hour night schedule.

Goodyear-Clearwater Mill, Cedartown and Rockmart, Ga., are running on a full-time production schedule at both plants, to be continued for an indefinite period.

Fitzgerald (Ga.) Cotton Mills have just installed 24 Stafford looms which will enable the plant to manufacture 90-in. goods.

Strickland Cotton Mills, Valdosta, Ga., will begin the first of the year replacing some of their machinery. No expansion program is planned.

Eagle & Phenix Mills, Columbus, Ga., are now operating on a five-day per week schedule, having increased from three and four days per week to five days.

Pacolet Mfg. Co., No. 4, New Holland, Ga., is having the machinery of two picker rooms moved to the third floor of the plant and will fill up the fourth pick-room with spinning frames so as to enable the plant to dispense with night spinning.

Border City Mfg. Co., Fall River, Mass., has adopted an increased production schedule, placing 300 additional looms in service. The new basis will be continued for an indefinite time.

Farr Alpaca Co., Holyoke, Mass., will pay a bonus of 8% on each employee's wages, the amount to be determined about Jan. 8. A quarterly dividend of 2% to stockholders has been declared.

Consolidated Textiles Corp., Pilot Division, Raleigh, N. C., has closed down for a week during the Christmas holidays, and will resume production on a full-time schedule immediately thereafter, following the same schedule which has been operative for some time past.

Ranlo (N. C.) Mfg. Co., which has been on a curtailment program, has resumed a full-time operating schedule.

Gaffney (S. C.) Mfg. Co., in connection with developing and improving its product, has installed the latest method of oil spraying of cotton, an outfit supplied by Borne Scrymser Co., New York.

The Kendall Co., has announced plans to build 61 new residences for operatives at Paw Creek, N. C., and Newberry, S. C. The total cost will be approximately $152,000. It was stated that 23 houses will be erected at Paw Creek and the remainder at Newberry.

Consolidated Textile Corp., Bonham, Tex., is arranging for the closing of its local mills for an indefinite period. Local business men have started a movement to raise capital to purchase the property, reorganize the mill and resume production under new ownership.

Carl Stohn of Canada, Ltd., Granby (Que., Can.), has broken ground for a large mill addition to more than double present capacity, reported to cost over $150,000, with machinery.

*Indicates previous mention of project.

***Miller Textile Mills**, Nuevo Laredo, Mexico, are said to be arranging for the early rebuilding of plant recently destroyed by fire with loss reported at close to $110,000, including building, machinery and stock.

Wool

Daniels Mfg. Co., East Brookfield, Mass., has returned to a full weekday operating schedule for the first time in six months with a slight cut in wages, the amount varying in the different departments. The company guarantees steady work for a period of at least ten weeks without night work.

Waterman Worsted Co., recent purchaser of the **Devonshire Mills**, Goff's Falls, N. H., is said to be arranging to begin operations at the latter plant on or before Jan. 1, giving employment to about 150 workers.

Cocheco Woolen Mfg. Co., East Rochester, N. H., has resumed production after a shutdown of two months' duration. Some of the departments, it is said, will be operated nights. The mill is controlled by Parker, Wilder Co. and employs about 250 workers.

***Clear-Spring Worsted Mills**, Doylestown, Pa., are considering the early rebuilding of their plant, recently destroyed by fire with loss of about $250,000, including buildings, equipment and stock.

Brunswick Worsted Mills, Inc., Pawtucket, R. I., recently organized with a capital of $35,000, and 750 shares of stock, no par value, to operate a local mill, will be represented by Henry C. Haskell, 40 Sessions St., Providence, R. I., one of the incorporators. Other incorporators include Robert L. Hoffines, Jr., and Roger B. Coulter.

Southern Worsted Corp., Greenville, S. C., has passed into the control of Herbert Lawton & Co., selling agents, of New York City. The change will be effective Jan. 1 at which time J. W. Newkirk of Patterson & Greenough, who has been in charge of the selling of the Southern Worsted line will join the Herbert Lawton organization.

Knit

Los Angeles, Cal. Concerning the reported removal to this city of **American Hosiery Co., Inc.**, New Britain, Conn., and **American Full-Fashioned Silk Hosiery Co.**, of Paterson, N. J., Henry P. Platt, general manager of Robert Morton Organ Co., confirms the report that the latter's plant occupying a plot of about five acres in Vannuys, a suburb of Los Angeles, has been sold to **Pacific Hosiery Mills Co., Inc.**, but final papers are still in escrow awaiting actual completion of the sale. Arthur L. James is named as acting for Eastern interests and it is stated 100 machines making full-fashioned hosiery are to be installed with provision for 600 employees working three shifts.

Monmouth Knitting Mills, Inc., Newark, N. J., have leased space in the industrial building at 102 Murray St., totaling about 5,000 sq.ft. floor space, and will remove their mill from the building at 45-47 Monmouth St., to the new location, where it is expected to increase operations.

Trenton, N. J. The former local **Taubel Knitting Mills**, consisting of two three-story structures on block bounded by Adeline, Elm and Grand Sts., and Chestnut Ave., have been purchased from F. A. Straus & Co., Inc., by the Regal Doll Mfg. Co., 200 Fifth Ave., New York, and will be occupied by new owner for another line of manufacture.

Newark, N. J. Isadore Berger, operating a knitting mill at 579 South Eleventh St., has asked bids on general contract for a one-story top addition to present two-story mill, 37x80 ft., reported to cost about $10,000, exclusive of equipment. Warren & Warren, 31 Clinton St., Newark, are architects.

Melrose Hosiery Mills, High Point, N. C., recently purchased the entire seamless hosiery manufacturing equipment of the **Griffin (Ga.) Hosiery Mills**, according to Charles L. Amos, proprietor of the former concern. It was stated that 96 knitting machines, 23 loopers and 8 sewing machines would be transferred immediately to Melrose Hosiery Mills plant No. 2 and placed in operation, providing employment for approximately 100 additional workers. The Griffin Hosiery Mills have engaged in the manufacture of full-fashioned hosiery as well as 220, 260 and 280-needle women's seamless hosiery. The full-fashioned unit is not involved in this transfer.

***Bossong Hosiery Mills, Inc.**, Asheboro, N. C., are now producing in excess of 5,500 dozen pairs of hosiery per month. When the addition is completed the production will be 15,000 dozen pairs per month.

Melrose Hosiery Mills, High Point, N. C., have purchased the machinery and equipment of the seamless hosiery department of the **Griffin (Ga.) Hosiery Mills**, and are moving same to High Point. The lot consists of 96 knitters, 23 loopers and eight sewing machines.

Julius Kayser Corp., through its subsidiary, the **Sterling Silk Glove Co.**, of Bangor, Pa., has purchased the **Amalgamated Silk Corp.** property at Fourth and Whitehall Sts., Allentown, Pa., for $32,-

000, this figure being bid by representatives of the Sterling company during the sale, authorized by the bankruptcy trustees, held Dec. 18. Announcement was also made by a representative of the Kayser Corp. that the 225 persons who were employed at the Amalgamated mill would be retained and steps will be taken for the expansion of the mills. Facilities will be started with a view of putting its production on a basis where 400 persons will be employed. It was also announced that the present Kayser unit in Allentown, the R. J. Hoffman Co., making rayon underwear, would be moved to the new property before spring, while the operating unit will be the Sterling Silk Glove Co., The Allentown plant will be known as the **Julius Kayser Silk Mill of Allentown,** with H. T. Schroeder, superintendent of the Hoffman company, in full charge of operations. The Hoffman company employs about 75 persons.

Lebanon, Pa. One hundred and fifty persons, of whom 60% will be women, will be employed after Jan. 15, in this city, in a mill for the manufacture of rayon fabrics, to be located at Twelfth and Walnut Sts. The **Bell Knitting Mills,** of New York, have taken over the building owned by the Schwarzenbach-Huber Co., of New York, and occupied by that company until several months ago, when operations ceased. Koenigsberg Bros. are the proprietors of the Bell Mills. Sanford Koenigsberg will be Lebanon manager and Jack Turner, superintendent of the knitting department.

Betsy Ross Hosiery Mills, Inc., Philadelphia, Pa., have leased a floor in the building at 3625-29 North Lawrence St., and will occupy for a local plant.

***Cadet Hosiery Co., Inc.,** Philadelphia, Pa. David S. Ludlam and Horace E. Palmer have been appointed permanent receivers for this company, in bond of $50,000. The first noted was recently made temporary receiver. Plans are under way for a financial reorganization of the company. The financial difficulty of the company is said to be due to the failure of Caldwell & Co., Nashville, Tenn., bankers, in November.

Silver-Knit Hosiery Mill, Inc., Kingsport, Tenn., is now operating on a 24-hour basis. Milton Silver, of High Point, N. C., is manager. The plant was known as **Rextex Hosiery Mills** and was idle for some time before it was purchased by Mr. Silver in August.

Infants' Socks, Inc., Waupun, Wis. Increased production has necessitated the adding of new looping and seaming machines in the plant and the addition of 25 more workers. In the future all job lots and second and third-grade hose for the mills here and in Fond du Lac will be handled through the Waupun mill.

Penmans, Ltd., Montreal (Que., Can.) contemplates making a substantial increase in the capacity of its hosiery plant to take advantage of the new tariff.

***Hamilton (Ont., Can.).** On Dec. 17, the bondholders and the preferred and common shareholders of the **Zimmerknit Co.** voted to enter into an agreement whereby the **York Knitting Mills** and the **Woods Underwear Co.,** of Toronto, assume the management of the Zimmerknit Co. and **Hosiers Ltd.,** located at Woodstock, Ont. Association of these firms is expected to bring together several of the most modern spinning and knitting plants in Canada. K. W. Harvey will be vice-president of the Woods Underwear Co., Ltd. He was formerly general manager of the Zimmerknit Co. and was founder of the Harvey Knitting Co. in Woodstock. J. Douglas Woods, general manager of the York Knitting Mills, will be the directing head of the new organization. It is stated that operations will be resumed on a larger scale at the Hamilton plant.

**Indicates previous mention of project.*

Silk

Seaboard Silk Mills, Elberton, Ga., are so rushed with orders that they will close down for only one day and two nights for the Christmas holidays.

Pinehurst Silk Mills, Inc., Hemp, N. C., are installing 96 new Stafford 48-in. silk looms and a new Cocker high speed warper and creel. Upon completion of the installation this plant which was recently acquired by J. Spencer Love and associates, of Burlington, N. C., will have 192 looms in operation.

Penn State Silk Mills, Topton, Pa., after being idle for one year, have just started operation. It is the intention of the company to keep adding experienced operators until the force is fully completed and running on a day and night shift.

Kutztown (Pa.) Silk Co., recently formed to take over and operate the local silk mill of the **Amalgamated Silk Corp.,** has taken out a state charter, with initial capital of $25,000. Herman J. Zeitsch is president; and Harold Mumma, 2350 Walnut St., Allentown, Pa., secretary and treasurer.

Newlands & Co., Ltd., Galt, (Ont., Can.), have completed the construction of a new one-story addition, and will occupy the structure at once. It will be used for equipment for the manufacture of fine botany yarns. It is expected that an increased working force will be employed.

***Western Canada Silks, Ltd.,** Port Moody (B. C., Can.), have acquired 4¼ acres of land with trackage facilities. The company proposes to erect a silk piece goods mill on the site. Considerably over $250,000 will be expended on the project.

Rayon

Celanese Corp. of America, Ancelle, Md., has started production in its recently completed new units giving employment to approximately 700 additional operatives, it is said.

Finishing

Textile Dyeing Co. of America, Inc., Hawthorne, N. J., is operating its printing plant in excess of normal capacity, and will hold to this schedule for an indefinite period.

American Printing Co., Kingsport, Tenn., is operating on a full day and night schedule at the plant of the print works, and it was announced that this operating schedule would be maintained for some time. The weaving department is not operating at the present.

Miscellaneous

Alabama Braid Corp., Gadsden, Ala., last week put all of the braid looms in the plant in operation and expects to be operating at capacity about Jan. 1, with a force of 300 workers.

New Haven (Conn.) Textile Corp. has been chartered with a capital of $100,000 and commences business with $52,000 paid in. The incorporators are: O. Jean Leca, W. S. Gilman, Clinton, Conn., and W. J. McCarthy, New Haven.

Harvey Fibre Carpet Co., Philadelphia, Pa. An involuntary petition in bankruptcy has been filed against this company by a number of creditors.

Donahue Corp. of Canada, Ltd., St. Hyacinthe (Que., Can.), has taken over a new three-story brick building and will establish a plant for the manufacture of elastic garters, etc. This company is a combination of the **Donahue Corp.,** Milford, Conn., and the **Bridgeport Coach Lace Co.,** Chelsea, Mass. Looms will be installed for making coach lace and automobile trimmings. Officers of the Canadian company are: A. J. Donahue, president; H. M. Naramore, treas.; Wm. West, managing-director and secretary.

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Textile Patents

ARTIFICIAL silk spinning machine. 1,781,231. Paul Hillebrand, Werdohl, Germany. Assigned to Firm Paul Hillebrand, G.M. B. H.

CARD clothing, Machine for the manufacture of. 1,781,383. Jean Gohy, Spa, Belgium. Assigned to Despa & Fils, Belgium.

COTTON cleaner. 1,781,343. Floyd D. Roan. Newlin, Tex. Assigned to F. D. Roan Machine Co.

COTTONSEED linters, Safety attachment for. 1,781,061. Paul Honeycutt, Mooresville, N. C.

FABRICS, Method and Apparatus for treating with liquids. 1,781,391. Florent Hinnekens, Paterson, N. J. Assigned to Van Vlaandern Machine Co.

KNITTED cap, And process for making. 1,781,196. Armin Rosenberg, Milwaukee, Wis. Assigned to Reliable Knitting Co.

KNITTED sweater. 1,781,647. Arthur M. Lowenthal, Rochester, N. Y.

KNITTING machine, Straight frame. 1,780,975. Fritz Israelson, Stockholm, Sweden.

PRINTING machine. 1,781,395. Fritz Johnson, Racine, Wis. Assigned to Stephenson Underwear Mills.

PROCESS of preparing artificial textile products with reduced luster from viscose. 1,781,018. Theodore Koch, Arnheim, Netherlands.

SPINNING and twisting machine. 1,781,584. Johann Jacob Aarau, Switzerland.

TENTER clip. 1,781,138. William A. Stelling, Providence, R. I. Assigned to Textile Finishing Machinery Co.

TEXTILE fabrics, Method of treating. 1,781,296. Alexander Milhomme, Ridgefield Park, N. J. Assigned to Progressive Silk Finishing Co.

TREATMENT of waste spun or woven textile material. 1,781,317. Adolphe Lionel Burlin, London, England.

Questions and Answers

We undertake to answer, free of charge, to the best of our ability, questions pertaining to textile matters received from any regular subscriber to TEXTILE WORLD. We do not undertake, however, routine analysis of yarn or fabric, or investigation involving unusual expense.

Inquiries should give the fullest information and data possible. In the case of damage to material, a sample should be sent. All inquiries must be accompanied by the name of the person inquiring, not for publication, but as evidence of good faith.

Letters expressing opinions or voicing criticism are cordially invited. These will be signed by the correspondent's name unless the letter itself contains a request that the name be withheld.

—EDITOR.

Settings for Cotton Drawing-Frame Rolls

Technical Editor:

We are having a dispute as to whether my drawing rolls are properly set. Will you please tell me how I can prove in a general way that my settings are correct? The stock going through my machines contains waste of irregular lengths, and therefore I do not believe that under any circumstances can I obtain a web which is smooth and free from lumps. (7432)

The only way to prove that present settings are the best is to try others and show that they produce a product of a poorer quality. This remark is not written in a light vein, for we believe that this homely method is the only satisfactory procedure.

The old rule, which still holds good for metallic rolls in some instances, but not so good in many others, is to set the second roll from the front roll $\frac{1}{4}$ in. over the staple, set the third roll from the second $\frac{3}{8}$ in. over the staple, and set the fourth from the third $\frac{1}{2}$ in. over the staple. Some mill men increase these settings by $\frac{1}{16}$ in. For leather rolls the above rule is practically the same, except that the settings are increased $\frac{1}{16}$ in., as is sometimes done when metallic rolls are used.

Before going extensively into settings and other related matters, we recommend the following procedure for making a comparison of webs: Obtain black pieces of cardboard about a yard square. Break the web down. Take a stick with felt on it a little longer than the web is wide, and bring out the web with it. Place the cardboard under the web. When a sufficient sample is obtained, lay it on the cardboard. Place this sample aside until you obtain a sample of the web with which you wish to make a comparison. Black cloth with a short nap will be found superior to plain black cardboard.

Many men who do the setting do not stop to realize that bulk of the stock (especially at the back) must have a good even bit or hold as it leaves each roll. Where heavy weighting is used, settings can be somewhat closer; and conversely, some of the weighting can often be compensated for by wider settings.

Recently the following suggestion was given to a mill running waste mixtures: "Close up your second roll to your front roll as far as it will go without touching. Move back the fourth roll as far as it will go, and then set the third roll so that it is about $\frac{1}{4}$ in. less from the second than the fourth is from the third." All settings in this recommendation were, of course, intended to be from center to center. Possibly the center-to-center settings in this arrangement would be something like the following, starting at the front: $1\frac{5}{16}$ in., $1\frac{3}{4}$ in., and $2\frac{1}{8}$ in. These settings can be used to good advantage on good, even-running cotton up to $1\frac{1}{8}$ in. in length. The same holds true in the draw-box of a comber or any drawing frame on which good cotton is used.

Sometimes it is possible to overcome thick and thin spots by drafting longer, especially on the breaker drawing when two processes of drawing are used. Roll speeds have considerable to do with settings.

It is practically impossible to produce an even web when waste mixtures are run, especially where staples or fiber lengths vary from somewhere below $\frac{1}{2}$ in. to just under one inch, or longer.

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Skein-Dyed Wool Is Stained

Technical Editor:

We are mailing you under separate cover three skeins of wool which are badly stained. We are at a loss to determine just what is causing this trouble and shall appreciate your advice as to what is causing the stain and how it may be overcome. (7389)

These stains are all due to large patches of mineral oil, but it is not possible to say what was the origin of the oil. It can be stated, however, that the oil is free from fine, powdered metal and hence is not from bearings or chain drives. It might come from the inside of steam or water pipes, being left there by the men who cut and threaded the piping. This source of oil stains, as well as the cement used in the joints, is a common nuisance in new machines. Sometimes resinous gums will boil out of the wood in a new machine; but these stains are not resinous; they are straight lubricating oil and may be easily washed out with solvent naphtha.

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Warp Shifts in Crepe-de-Chine

Technical Editor:

I am sending you a sample of crepe-de-chine made of two-thread 20/22, 60/65 turns, filling. I should like to know why the warp shifts in this sample. When the manufacturer used three-thread 20/22, 60/65 turns, for filling, the goods came out perfectly. On the goods woven with the two-thread 20/22 for filling, the goods came out shifted. (7390)

We have examined the sample submitted and have come to the conclusion that there should be four more picks added when using two-thread 20/22 for filling, as filling of this nature shifts easily. When using three-thread, we find that it gives better coverage in the finishing than the two-thread and naturally gives a tighter surface or body. We also suggest that the weavers be instructed not to lean against the sand

roller while the loom is in motion. Sometimes the shifting is caused in the finishing, since there is some difference in the shrinking of two-thread and three-thread. But we are of the opinion that by using four more picks this trouble will be overcome.

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Manufacture of Hosiery

Technical Editor:

We are in receipt of an inquiry from Nicaragua, C. A., concerning yarns and machinery employed in the manufacture of 220-needle, mercerized cotton stockings, for ***both men and women.*** *We shall appreciate any information you can give us, which we request from you on suggestion from the U. S. Department of Commerce. (7393)*

We suggest the use of the following yarns in the manufacture of men's half hose of mercerized cotton on a 220-needle, 3½-in. machine: For the welt or cuff, a 36/2 mercerized cotton; the leg, 40/2; the heel and toe, two ends of 60/2; and for reinforcing, either a 60/1 or 120/2, depending upon the quality of stocking desired. If a plated proposition is desired, we suggest a four-thread silk, plated over 60/2 mercerized cotton; or a 150-denier rayon, plated over the same yarn.

For the women's hosiery, we suggest a 40/2 for the welt or garter top; from 40/2 to 60/2 for the leg, depending upon the weight of stocking desired; two ends of 60/2 for the heel and toe; and 60/1 or 120/2 for the reinforcing yarn. The same scheme of plating could be used for the full hose as for the half hose. We also suggest a 3¾-in. machine in preference to the 3½-in. machine used for the half hose.

The rib top for half hose would probably be made on a 3½-in., 220-needle ribber, to be transferred to the machine for knitting the leg and foot. The toes of these stockings would be closed by a looper having 22 or 24 points per inch. Welting, if done by sewing machines and seaming (at the back), can be done by machines made especially for that purpose.

We are enclosing a proposed layout for a small hosiery mill which may be of some help in organizing the plans for any unit, and also a list of manufacturers of the various types of equipment required.

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Rayon Fabric Loses Weight When Dry-Cleaned

Technical Editor:

Within the last few months, several of our customers have complained that after an application to rayon fabrics of a highly refined natural gasoline which we manufacture, their goods are much lighter in weight and are more or less spotted. The only information we have secured to this date is that the textile industry is adding a filler which is quite soluble in gasoline. However, we have been unable to ascertain just what this filler is composed of. We shall appreciate any information you are able to give us in this matter. (7391)

The manufacturers and finishers of fabrics, especially silks and rayons are using materials that are either readily soluble or

THOUSANDS of inquiries are handled annually by the Technical Editors. In order that as many readers as possible may benefit from this service, we select problems of general interest for publication each week.

are removed locally, as you state. The sizing varies greatly in composition and has been found to be readily disturbed with such products as acetone, ether, and the chlorinated hydrocarbons, as well as those cleaning solutions prepared with highly volatile gasolines. In many cases there is more evidence of disturbed sizings than of complete removal. By this we mean that the sizing is removed locally, only to be "piled-up" in an adjacent area to cause a "ring."

When fabrics are given a total immersion in a cleaner, such as the solvent in question, there is a marked loss in the weight of the original material. This is truly a fault of the manufacturer or finisher and in no way can be attributed to the solvent. There should be closer cooperation between the manufacturer and the cleaner.

Products used in finishing include fillers, such as cellulose acetate or like products; insoluble soaps; resins; oils; and oil emulsions. These latter materials are employed in the finishing bath to give a so-called soft or oil finish to the fabric.

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Frosty Appearance on Rayon Crepe

Technical Editor:

I am submitting to you a small sample of rayon crepe with a little so-called frosting defect. I cannot determine whether this defect is caused by improper size, improper finish, or loose warp. The tension of the warp, to my judgment, seems to be right. Will you kindly give me your opinion? (7420)

The frosty appearance on the face of any plain cloth can be caused by hard size or loosely woven warp; but if the finisher would pay special attention to the frosty effect on the face of the unfinished cloth, much of it could be removed by properly washing out the size during the finishing.

During the slashing of the rayon warp, all the stretch or elasticity is taken out of the yarn. As a matter of fact, there is a very substantial gain in yardage during the slashing. If the warp is too heavily sized, the yarn will have to be run slowly over the drying cylinders, for it is very important that the rayon should be dry when it is being wound on the loom beam. The length of time the yarn is on the drying cylinders determines whether the yarn will be merely dried or will be baked. If the size is very heavy, much of it is not properly taken from the yarn by the action of the squeeze roll. As a result there will be spotty places where the heavy size has been actually plastered on the rayon. This plastered size is the cause of most all of the trouble, for it must be actually baked

before it is dry enough to be wound on the loom beam.

During the weaving of such a warp, particularly if the warp is run loosely, the baked ends will have a tendency to rise higher on the surface of the cloth than will the ends that are not hard-sized. Even if the size is thoroughly washed out during the finishing, the face of the cloth will show frosty places.

It is a mistaken idea to size rayon warps too heavily when the picks per inch are not too many. The number of picks per inch that are to go into the cloth should be the factor that governs the speed of the slasher, and not the density of the sley. Particular attention should be given to the leasing of the yarn after it leaves the drying cylinders and before it is wound on the loom beam.

If the picks in your sample had been displaced during the finishing, we should be inclined to place the blame on the finisher; but, judging from the appearance of the finished sample, we are of the opinion that the warp has been too heavily sized and run loosely during the weaving. A careful inspection of the gray cloth before it reaches the finisher will show this frosty effect if the warp has been run too loosely and the yarn has been too heavily sized.

Preparation of Cotton Raw Stock for Dyeing in Vacuum Machine

In the Nov. 29 issue of TEXTILE WORLD, we published a letter from one of our readers which invited discussion on the methods of preparing cotton raw stock for dyeing in a vacuum machine. Some of the replies received are printed herewith; others will appear in subsequent issues. It should be noted that while there is a wide divergence of opinion as to the best practice in treating cotton for dyeing in this type of equipment, a number of writers have emphasized uniform and compact packing of the stock in the machine as the most important part of the process.

Careful Packing Essential

Technical Editor:

In answer to inquiry No. 7401, which appeared in the Nov. 29 issue of TEXTILE WORLD, the writer is able to make the following comments: There is no need at all for preparing or boiling off cotton raw stock previous to dyeing in a Chattanooga vacuum raw-stock dyeing machine. I have operated Chattanooga vacuum machines of 1,000-lb. capacity for about ten years in one of the largest cotton blanket mills in the country.

For sulfur colors, the liquor was made up in the regular way in overhead tanks. Dyestuffs used in circulating machines must, as a rule, be of A-1 solubility. An addition of high-grade sulfonated castor oil to the dyebath promotes quicker wetting out and more level dyeing. It is also of advantage to leave out the salt, or part of the salt, at the start. Make up the liquor by boiling the dyestuff with the necessary amount of soda ash, sodium sulfide, and sulfonated oil. This is kept boiling until the dyestuff is properly dissolved. Next run the liquor down into the machine, start the pump when all the liquor is down and turn on the steam. After boiling for 10 or 15 min., add the salt in one or two portions. When the dyeing is finished, pump the liquor up into the overhead tank either to be saved for the next lot or for any necessary matching to shade of the lot in process. When the desired shade is obtained, start washing; let the wash water circulate for a short time; next run the washwater into the machine from the bottom, force it through the material by the pump, and let it run out through the overflow. It is advisable to turn on a little steam to just kill the chill in the water. When the material is clean, shut off the overflow, start circulation again, and add—for sulfur colors (especially sulfur blue)—from 2 to 3% of sodium perborate to aid oxidization. Take out the dyed stock, hydro-extract, and allow to stand in a pile as long as possible before drying, for further oxidization.

The writer takes it for granted that either natural soft water or zeolite-softened water is used.

Direct colors of medium and dark shades can be handled in the same way as are sulfur colors. For light shades, such as pinks and light blues, make up a boiling solution in a clean overhead tank of about ½% of ammonia and from ½ to 1% of sulfonated castor oil. Run the liquor into the machine, start circulation, boil for 15 min., add the well-dissolved dyestuff, bring up to a good boil. After 10 or 15 min., add salt if required (this depends on the depth of shade).

Level dyeing depends largely on the careful packing of the material into the machine. The writer had two men with rubber boots on in the machine and two men outside of the machine. The men on the outside threw the material in, while the men inside shook it up and distributed it uniformly all over the bottom of the kettle, at the same time treading it down. When a layer of 1 ft. or so was stamped down dry, a hose was turned on and the material uniformly sprinkled and stamped down until level. After this, dry material was added, stamped down, and wetted, the procedure being repeated until the kettle was filled. During the filling, the outlet valve of the machine must be kept open to allow the sprinkling water to run off.

The writer has used this method for many years with best results in Chattanooga Vacuum dyeing machines, Delahunty circulation machines, and other makes. Of course, the loose material can be blown right into the machine by means of a fan or chute. The writer hopes that this information will give the inquirer a fairly good idea of the whole process. C. B. J.

Soluble Oil Effective

Technical Editor:

In connection with an investigation for a client of the comparative value of some of the wetting-out agents in the dyeing of cotton in various forms and in different

machines, we recently made a number of runs in a small Chattanooga raw-stock dyeing machine. In this work we used five different wetting-out agents and a soluble oil, as well as a blank. The cotton in each case was dyed in the same manner without any soap or other wetting-out agent. The dyeing experiments included direct, sulfur, and vat dyestuffs; and as we were endeavoring to determine which assistant was of the greatest value as a leveling agent, and not to obtain even dyeing, we purposely selected dyestuffs of each class with known uneven-dyeing characteristics. In comparing the results, the evenness of the shades dyed with soluble oil only were used as the basis of grading, and all other dyeings were compared with these.

In the case of the sulfur dyeings we were rather surprised to find that none of the other wetting-out agents tested gave as level dyeings as the soluble oil. In fact, when used in this way, some of the commercial wetting-out agents on the market were of little value. At least in part, this is probably due to the high alkalinity and other conditions of the sulfur dyebath. Several of the wetting-out agents were almost as good as the soluble oil, but none of them gave any more level dyeings.

It is well known that the efficiency of many of the wetting-out agents varies widely with both the amount of agent present and with the alkalinity of the solution. In most cases there is an optimum concentration of the wetting-out agent and an optimum pH of the solution which gives the greatest money-value wetting-out effect. Unfortunately, in practice it is not always possible to control the pH within the optimum range. It is possible that the reducing action of the sulfur and vat dyebaths may also affect the efficiency of some of the wetting-out agents.

On the other hand, with the direct dyestuffs, using a slightly alkaline bath, several of the assistants were somewhat better than the soluble oil when equal weights were used. However, on the basis of price, none of the results were any better than those obtained with soluble oil alone.

In the case of vat dyes, where we again had a very alkaline bath, the results obtained with the sulfur dyes were repeated; and in no case did we obtain any better results with the commercial wetting-out agents than with the soluble oil alone. With one of the commercial wetting-out agents, the results were apparently no better than the tests made without a wetting-out assistant.

In view of the wide use of the wetting-out agents in many processes, and the beneficial results obtained in most cases, these results were quite surprising, and we can only explain them upon the basis of the high alkalinity and the presence of other reagents used in the sulfur and vat dyebaths. CONSULTANTS.

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Avoid Channeling

Technical Editor:

It has been the writer's experience in selling and demonstrating the Chattanooga vacuum raw-stock dyeing machine, as well as in selling and demonstrating soaps and oils to dyers, that soda ash by itself is far from the best material to use in order to prepare cotton raw stock, especially where the cotton is to be dyed with sulfur colors. The chief precaution to be taken in preparing the raw cotton for dyeing in this type of machine is to have the machine packed as uniformly and compactly as possible, so that when the dye is applied, the stock will be dyed evenly and uniformly. By properly loading the dyeing machine and carefully wetting out the cotton, channeling is avoided, and a more uniform shade from top to bottom of the entire mass of cotton is obtained.

If the raw stock is to be dyed with sulfur colors, the preparation of the cotton prior to dyeing should be as thorough as possible. Inasmuch as sulfur colors are not the most soluble type of dyestuffs, every means possible must be undertaken in order to prevent the dyeing machine from filtering out the dyestuff; that is, to prevent the cotton at the bottom of the machine from receiving the bulk of the color and having the shade gradually become lighter as the top of the mass of cotton in the machine is reached.

In dyeing raw stock, especially cotton raw stock, we must not overlook the subsequent operations through which the stock is going to pass after it has been colored. Therefore no practice should be permitted which will tangle the fibers, cause them to mat together, and render carding and spinning troublesome. We find then that cotton must be carefully prepared for dyeing for two reasons: first, to assist in the dyeing; and second, to keep the fibers from being tangled and matted.

Soda ash has poor wetting-out properties, and it requires some time for the pump to circulate the soda ash liquor through the mass of cotton in the dyeing machine and to wet it out thoroughly. Soda ash is, however, a valuable chemical for emulsifying oils and removing pectins and other foreign substances found in the raw cotton.

If the time permitted, a soda ash boil for two hours or more would probably prepare the cotton for dyeing, but this length of time of boiling in an alkaline liquor would harshen the cotton fibers and mat them together so that the waste in the carding operation would be much higher. In order to be effective, it would probably require from 5 to 6% of soda ash to give a good boil-out and a good bottom for subsequent dyeing.

On the other hand, it will require only 2 to 3% of a good wetting-out agent to thoroughly wet out the cotton. The wetting out can be done at a temperature of around 120° F., will take about 20 min., and, without draining the machine, the dyestuff—dissolved with sodium sulfide and soda ash—can be added to the machine, and the machine run until the desired shade is reached.

In dyeing sulfur colors, the dyebath is always rather strongly alkaline; and the alkalinity of the dyebath is sufficiently high to remove the waxes, oils, and other foreign matters from the cotton.

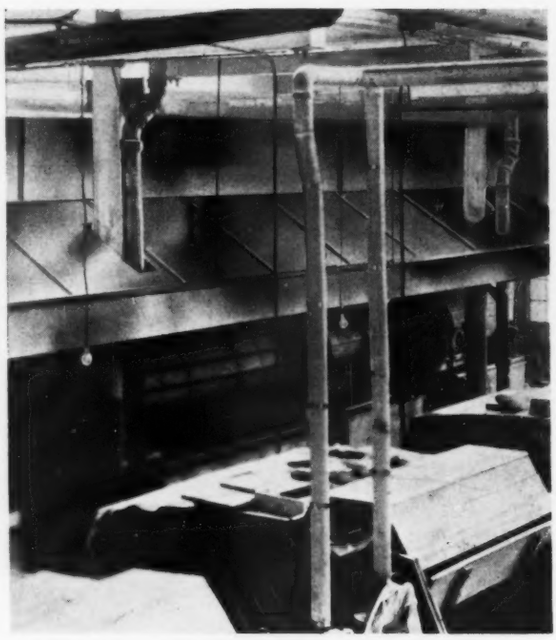
If the wetting-out agent is circulated through the goods and the dyestuff added without draining the machine, more level dyeing results are obtained, since the penetrating agents assist in depositing the dye on the cotton more evenly. At the same time, wetting-out agents composed of various types of oils and soaps lubricate the cotton fibers, keep them soft, and prepare the cotton to a better degree for subsequent carding and spinning. Again, in most cases the use of a wetting-out agent or penetrating agent prior to dyeing eliminates the use of softeners in the last rinse water.

As far as the economical aspects are concerned, the use of a penetrating agent will give a slightly higher initial cost than the use of soda ash. However, if a softener is used after dyeing, use of a penetrating agent to prepare the goods prior to dyeing will save money. Moreover, use of a penetrating agent eliminates a large percentage of the carding and spinning waste which would be made if the penetrating agent were not used. B. C. P.

New Machinery & Processes

Non-Corrosive Ventilating Duct

DEVELOPMENT by Wiesner-Rapp Co., Buffalo, N. Y., of a non-corrosive ventilating duct for removing fumes from dyeing machines is announced in a recent bulletin of the International Nickel Co., 67 Wall St., New York. The equipment consists of a hood, 10 ft. long, with a tapering duct mounted upon it to conduct the fumes to the fan. Ports, 6 x 24 in., in the top of the hood admit the fumes to the duct. Any condensate is conducted to a trough running around the apron of the hood and discharged to the sewer through a pipe at the fan end. Prevention of corrosion is effected through the use of 20-gage Monel metal sheet for both the hood and the duct.



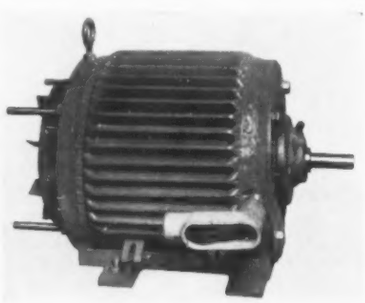
Dyehouse ventilating duct constructed of non-corrosive metal

Fan-Cooled Induction Motor

A TOTALLY enclosed, fan-cooled, induction motor which embodies a number of unusual features has been announced recently by the Lincoln Electric Co., Cleveland, Ohio. This new motor is said to be so designed that its rise in temperature is considerably less than the allowable rise for motors of this type. Features of the motor include arc-welded steel construction, double-sealed ball bearings, and a removable cover to facilitate easy cleaning of the radiating surface.

A large radiating surface is obtained by complete enclosure of sides of the motor with a deeply corrugated sheet of corrosion-resisting metal. This conducts the heat created within the motor to its outer radiating surface which is constantly cooled by a continual draft of fresh air. The air imprisoned within the sealed frame is circulated by a fan arc-welded to the rotor. This fan drives the heated air within the motor to continuous contact with the corrugated cooling surface. The outside air which drives the heat from the radiating surface is forced over the exterior of the corrugated surface by a large arc-welded fan attached to the motor shaft. The outside air is drawn in at one end of the motor and expelled at the other end.

The frame is fabricated of arc-welded steel to give it strength and rigidity. The stator laminations are stacked in the frame by hand, then subjected to extremely high pressure. While under pressure, they are permanently affixed by a retainer ring which is arc-welded to the frame, making the stator core an integral part of the motor frame. The rotor core is formed by hot riveting the laminated iron while under high pressure. To insure complete enclosure of the motor the rolled steel and plates are machined to fit the end rings of the motor frame. Ball bearings which enclose the shaft opening in the end plates are sealed both inside and outside. The new motor has the same mounting dimensions as standard, open-type, horizontal motors of equal rating. It is manufactured in sizes from 1 to 50 hp.



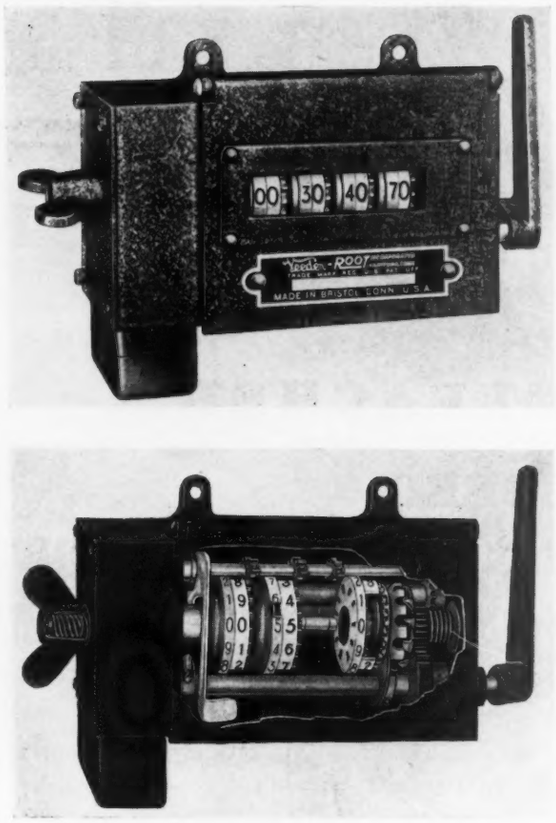
Fan-cooled motor with cover removed to show corrugated radiating surface

Predetermined Counter Aids Production Control

ANNOUNCEMENT of a predetermined counter has been made by Veeder-Root, Inc., Hartford, Conn. The counter can be set to any desired number within its capacity, and will, when that number is reached, make or break contact in an electric contactor which is part of the counter. The electrical circuit may be used to light a lamp, ring a bell, or stop the machine upon which the counter is installed. It is believed that the counter will help solve problems of production control heretofore considered well-nigh impossible.

The counter itself has two distinct sets of figure wheels, one set having large black figures on white wheels (the counting wheels), the other, small black figures on metal wheels (the predetermining wheels). The metal wheels are set manually to the desired predetermined number. Upon operation of the counter, the counting wheels advance; the predetermining wheels subtract; and when the counting wheels reach the number which was predetermined on the metal wheels, the electric contactor operates, making or breaking the electric circuit.

To set back the counting wheels to zero, after the contactor has operated, it is only necessary to pull out



Above—Predetermined counter. Below—Cutaway view of counter showing counting and predetermining mechanism

a wing nut and turn it once around. The metal wheels automatically return to the predetermined number. The counter is again ready to repeat its previous cycle and will do so until a different number is set on the metal dials.

To stop individual-motor-driven machines, only simple wiring to the starter box is necessary. For belt-driven machines, an electric stop motion to be used in combination with the counter, which will shift the belts or operate a clutch as may be required, is supplied. The contact is suitable for voltages up to 220 a.c. or d.c., but must be used with very small amperages to prevent burning of points. It can be set for either open- or closed-circuit operation.

The instrument has an additional feature which provides for continuous operation of the alarm, electric light, bell, or stop motion until it has received attention. This feature insures the alarm receiving attention, prevents the operator from starting on the next cycle of operations without resetting, and thereby nullifies error caused by forgetfulness. The standard counter is constructed with shaft on either the right- or left-hand end of the counter. It may be operated as a rotary, rotary-rachet, or rachet-drive instrument; with or without lever stops and return lever spring; and with either top-coming or top-going rotation of shaft.

Totally Enclosed Fan-Cooled Motors

TOTALLY enclosed, fan-cooled motors have been placed on the market by Allis-Chalmers Mfg. Co., Milwaukee, Wis. The motors, known as Type ARZ, are not adaptations of standard open types, but are of a new design throughout. They are especially suited for locations where dust, dirt, acid fumes, or moisture are prevalent; and therefore are particularly applicable to textile mills, dyehouses, and chemical plants. Since a one-piece casting serves the dual purpose of completely enclosing each end of the motor and supporting the bearing, no more castings are needed than in the standard open type of motor.

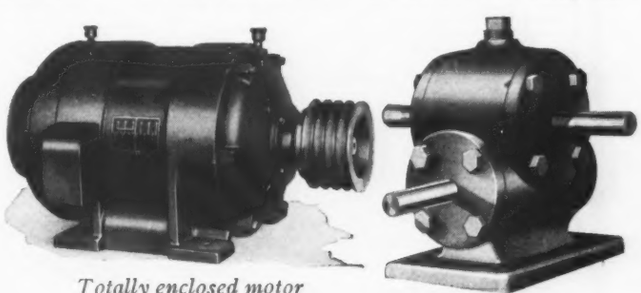
Another feature of these motors is the stator end frames of double-deck construction with the inner deck machined to form a long rabbet fit with the combination bearing-housing end closure, thereby sealing the stator windings and rotor against the entrance of dust, fumes, moisture, and similar destructive agents. The anti-friction bearings are mounted in self-contained cartridges and are sealed without the use of felt, cork, or any material subject to replacement. Four large hex-head cap screws are employed to tie the bearing cartridge to the bearing housing.

Heat is dissipated by blowing a strong blast of cooling air against the front-bearing housing, through the circumferential air channel—formed by the two walls of the double-deck stator end frames and a fitted plate steel band—and across the back of the stator laminations. Cooling air is provided by means of a large cast-aluminum fan designed for strength and efficient windage, keyed and locked on the motor shaft at the front end, and protected by means of a cast-iron housing with grid cover for air inlet.

Nine stator leads, sealed across the air path in a rigid steel conduit, are brought to a pressed-steel terminal box. The motor leads are provided with copper soldering lugs for making proper connections for either 220- or 440-volt operation.

Speed-Reducing Gears

ANNOUNCEMENT has been made recently that Winfield H. Smith, Inc., Springville, N. Y., has added three new models of speed-reducing gears to its standard line. Gears No. 2B and No. 3B are designed



Totally enclosed motor of fan-cooled type

Speed reducer

for use with ⅛-hp. motors. They are equipped with specially designed ball bearings to eliminate the need of stuffing boxes and at the same time to prevent leakage of oil or grease at shaft extensions. No. 2B can be furnished with ratios of reduction of 48 to 1 and 30 to 1; No. 3B in ratios of 20 to 1, 10 to 1, and 5 to 1.

The third unit, No. 2DB, is a double worm-gear drive capable of transmitting a torque load of 150 in. lb. It has radio thrust ball bearings on the high-speed shaft, ball thrust bearings on the intermediate shaft and plain bearings on the slow-speed shaft. It can be furnished with ratios of reduction of 400 to 1, 200 to 1, and 100 to 1.

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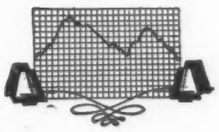

A Season of Many Modes for Women's Wear

Unusual Variety of Plain and Decorated Lines to Be Utilized, Says E. F. Peirce

Summary: **The coming year is to be a period of many modes for women's wear. For sports wear Persian effects or plaids will be combined with solid color fabrics. Cotton tweeds should have expanded vogue. In wool goods and silks crepe weaves are leaders. Prints and fancy weaves in sheer goods are developing for summer wear. In women's coatings rough surfaces threaten the dominance of smooth effects. White holds its importance for spring and is followed by blue, red and green in that order. Men's wear preference is still for small neat effects, and more confidence is needed in the market before new trends are likely to be developed.**

●

This instalment of the Analyst has been prepared especially for TEXTILE WORLD by Eugene Franklin Peirce, Color and Fabric Editor of the *Dry Goods Economist*. Once each quarter the Analyst appears in the form of a style forecast of fabrics. All other weekly issues will continue to consist of analysis and forecast of conditions in the textile industry, prepared, as hitherto, by Dr. Lewis H. Haney, Director of New York University, Business Research Bureau.

AT PRESENT there is no such thing as a mode in women's attire, but rather many modes. Jean Patou of Paris states that "the chief feature of my spring collection is to be diversity." And so Patou rejects the omnipresent dot and boldly presents multicolored plaids in diamond formations principally. Patou's styles have wide acceptance. Coincident with the presentation of plaids in Paris and in New York as novelties, comes the promotion of Roman stripes and of colorful Persian motifs. In the absence of any fancy dress goods to speak of the only choice of manufacturers of sports wear is to accept plaids, Roman stripes and Persians for combination garments to wear with dresses of white or of solid colors. Both of these are well positioned for spring, since followers of sports demand striking styles in dress. Persian designs, and more especially the artistic colors that have contributed to the fame of the Orient, are again featured for the decoration of silks to be used principally for combination purposes, of which scarfs, blouses, boleros, and golf jackets are outstanding examples. To the foregoing is added a long range of solid colors dyed in shades especially selected for artistic color combinations with the new prints, so that dressmakers, costumers and garment manufacturers will have abundant aid in launching a colorful spring and summer season. It is to be noted that plaids, stripes, and Persians have been taken up by leaders in the production of garments that come under the classification of "sports wear."

The breadth of the movement of sports wear garments is again confirmed in the presentation of cotton tweeds which are confidently offered by a leading producer of novelty cotton and synthetic fabrics. Incidently the foregoing have been adopted by buyers representing leading city department stores. Expansion in the direction of popular priced garments is seen in the variety of cotton shirtings in white and in colors, decorated with jaquard figures, which are assured acceptance for what are broadly classed as "shirt-waist dresses."

CREPE IMPORTANT AMONG WEAVES

Crepe is the basic weave in woolens and worsteds and in silks so far as high style fabrics are concerned. The nine best numbers of dress goods in a leading American woolen and worsted mill are basically crepes. In silks, weaves start with a one-thread crepe-de-chine followed by two, three, four, five, and frequently six-thread crepes. Often the one-thread crepe-de-chines are of fine counts to bridge the difference between crepes and chiffons.

Emphasis should here be given to the present trend in the development of fine crepes woven from yarns of fine cashmere wools. Emphasis should also be given to the action of manufacturers aiming to be in the front rank, by the employment of special finishers experienced in giving the touch and finish to crepes.

The scope of weaves and patterns of coatings is rather limited since fashion has bestowed favor on solid colors. White pebbled weaves and flecked tweeds are favored. Blacks with decorations of white rayon yarns are in the lime light. Smooth weaves such as broad cloths are side-tracked by rough or eponge surfaces.

The two most noted manufacturers of dress goods in France are featuring one-quarter-inch square check for export. The weaves are of the semi-fancy variety with slight touches of retiring colors of which soft blue, dull red, and almond leaf greens are examples. Grays are included. Some knitted fabrics of similar effect appear in the collection.

Plain and fancy jersey cloths are retained for occasional wear at important sporting events. For example, jacket suits and dresses in combinations of black and white where outstanding at the international polo games held in this country last fall. Jersey weaves

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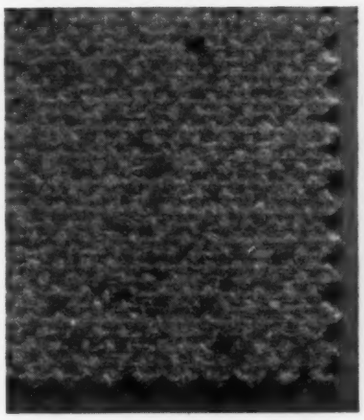
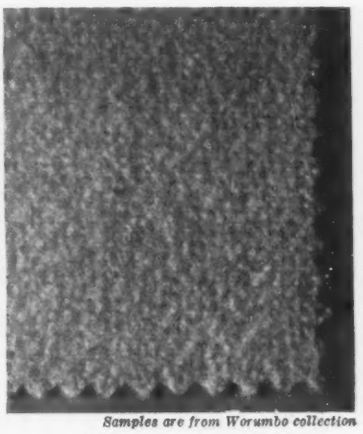


Tweed coating

Rayon decorated coating



Samples are from Worumbo collection

Pebble cloth coating

A group of women's woolen coatings which are typical of the rough surface effects which have lately come into popularity

will also hold a place in most collections for sports wear for the coming season.

Printed Fabrics

A study of both French and American spring collections of silks reveals a united international effort to further the vogue of colorful prints. Florals drawn from the rich storehouse of nature are strewn with a lavish hand on grounds of black, blue, brown and green for early spring selling, and then expand in the larger field of pastel and white grounds for summer wear.

Alert printers who have sensed the rising "print trend" are sailing for Paris to freshen collections. It is said that more French painters are entering the field of commercial art in the French capitol. At one of the important spring openings 200 patterns drawn from nature were presented including buds, blossums, roses, field flowers, leaves, petals, plus dots, and flecks. Miniatures in variety were often arranged in diagonal treatment. All-over printings were important and floral colors were outstanding.

Sheer weaves in cotton, synthetics, silks, linens, mesh weaves are to be advanced from a classifications of novelties into the larger field of high style favorities during the spring and summer seasons of the new year. Femininity is again in the saddle. Fashion demands greater scope in weaves and fabrics.

Voiles, woven from 50s to 70s yarns, will be featured in collections of sheer weaves. Organdies, batistes and allied sheer and feather-weight weaves must be given consideration in departments where assortments are supposed to be complete. Ruffles are again looked upon with favor. Even seed voiles are indicated for a renaissance.

Producers and converters of cotton dress goods and of synthetics are enlarging their collections. They have revived weaves with which Americans won prizes at the world's fair held at Paris during the spring and summer of 1900 in competition with the world's most skillful manufacturers. Leno weaves stood high in some of these *fin de siecle* collections.

Colors

White is to be a head liner during the spring and summer season of next year. Combinations of black and white will open the spring season, followed by white and black the former predominating as the spring season unfolds. Pastels will next be given consideration so far as volume purchases are concerned. Blues in variety will also hold an important place for volume selling. Colorists in Lyons present 14 series of blues. Blues are to be used in combination with reds of which 18 series are presented, shading from flesh to geranium. Greens are given third place among the colors. For volume selling grayed greens, such as reptile, blueish greens, moss greens and allied soft greens, are preferred to the more brilliant yellow greens which are mentioned for evening and resort wear. A new phrase has entered the nomenclature of colors: "Accent colors." Examples are geranium reds, brilliant blues, emerald greens, green blues, and blue greens, allied to "peacock shades." Accent colors will gain in favor as the spring and summer seasons advance.

No Change in Men's Wear

There is nothing important to be added to the previous reports concerning styles in woolens for men's wear. Managers of woolen mills with a record of success during the last half-century state that in their opinion the trend is still definitely in the direction of neat effects and of colors already established. Moreover no impending change is indicated until the present indecision concerning styles and prices of raw materials gives way to confidence in the clarity of definite and new trends.

The Textile Trend

Cotton Textile Markets: The latter part of December has seen an unusual condition in the cotton goods markets. Sellers in their endeavor to unload stocks have cut prices further. A fair business for December and January shipments has been done, but at the expense of damage to the price structure which optimists hoped had been stabilized after the large early fall buying. Spot sales of 80-squares, the most active print cloth and the one in smallest supply, dropped to 7½c. with several lots being moved at 7¾c. Reductions in January contracts brought the price down to 7⅞c. and for February another ⅛c. Indications are that the desire to sell before the last of the year played an important part in the market drop. More stable conditions are probable after this type selling has been completed. One prominent house withdrew all print cloth lines for the present, refusing to operate in such a market.

Wool Textile Markets

Spot business is of small volume in wool goods markets. In women's wear it is confined to rush orders to go into January sales coats, and in men's wear to flannels and tropicals for southern beach wear. Attention is directed to spring season just around the corner. New nubby fabrics in dress goods woolens or crepe effects in worsteds will surprise consumers by their lightness, style and attractive designing. They contrast with old type woolens

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that were heavier, more sombre and more uniform in design. Men's wear situation is less optimistic, but salesmen making their second trips are expected to book orders which will improve the spirit of these mills early in the new year. Wide range in worsted yarn prices causes uncertainty and sales volume is contracting.

Knit Goods Markets

Christmas brought its customary lull to the knit goods markets. Heavyweight underwear and sweater demand showed a sharp drop, but in the former division the mills were in good position, thanks to low stocks and steady buying. Spring sweater sales are backward. Bathing-suit demand for 1931 is very satisfactory and mills look for a quick pickup in buying after the holidays. Half-hose producers enjoyed a moderate December, but soft prices cut the dollar volume. Agitation for curtailment of women's silk full-fashioned production continues, and more of the important mills have adopted policies of reduced output. In underwear, springweight cottons move slowly, retailers refusing to buy more than weekly needs. Rayon underwear movement has eased.

Silk Textile Markets

Raw silk continues to hold up bravely, and the showing this week was particularly pleasing, considering the holiday lull. Demand registered the normal drop, but despite this, prices edged upward on nearby months. Spun yarn is selling steadily though lightly into spring, and mills are in good position; stocks in spinners' hands are light. Throwsters report very little buying, but steady prices due to strength in primary market. Broadsilk mills feel holiday letup keenly, and spring buying is backward; but trade is confident of January improvement. Spring flat crepes, both prints and plains are selling, mostly for winter resort consumption.

Cotton Market Nervous

Hope of Gradual Gain in Trade, And Acreage Reduction are Sustaining Factors

THE cotton market has been nervous and more or less irregular during the week. The rally which developed around the 10¼c. level for near months and 10c. for July carried the market up some 60 to 70 points from the lowest, but demand tapered off at the advance, suggesting that the partial recovery had been largely an expression of technical conditions. The volume of business then dwindled and trading later was attributed largely to evening up of accounts for over the holidays. Reports of further small bank failures in the South and the rather unsettled tone of the stock market, no doubt increased the disposition to even up accounts in cotton and there were occasional spurts of southern selling, presumably in the way of hedging cotton disturbed by financial conditions. These offerings were not heavy, however, and the market showed a fairly steady undertone around the 10¼c. level for May contracts.

The news of the week might have stimulated more business had it not been for the proximity of the holidays. The report of the Census Bureau showing 13,259,622 bales ginned prior to Dec. 13 compared with 13,456,783 to the same date last year, was a shade under expectations, but not sufficiently so to cause any material change in statistical calculations. Roughly speaking, the Dec. 1 crop estimate of approximately 14¼ million bales of 500 lb. gross weight stands and in the opinion of some traders points to a total ginning of around 14,100,000 bales for the season. Adding to this the city crop or repacked samples, the amount would be brought up to about 14,300,000 running bales. This is being compared with an increasing tendency toward the acceptance of reduced figures on the world's consumption. A prominent Manchester trade authority is quoted in press advices as estimating the world's consumption at 11,400,000 bales which, would compare with last season's consumption of approximately 13,020,000. This authority places the probable world's carry-over at 9,000,000 bales. It is doubtful the rank and file of the local trade anticipate that the world's consumption will be pulled below 12,000,000 bales, although according to a recent estimate by the New York Cotton Exchange Service, consumption for the first quarter was only at the rate of 10,800,000 bales. Monthly figures on consumption should compare much more favorably with those of last season after the turn of the year. It is generally understood that stocks of goods are low and with any improvement in general trade or economic conditions, there might be a rapid increase in mill activity during the spring and summer.

Nevertheless, the statistical position is bearish enough to intensify the effects of any unfavorable development in other directions and it remains to be seen whether the present confidence in a reduction of acreage will be justified by the event. It is pointed out in this connection that in spite of efforts to secure a reduction in wheat acreage, the decrease officially reported in the area sown to winter wheat amounts to only 1.1%. Present prices certainly seem low enough to cause a substantial reduction in the cotton acreage and financial conditions are considered likely to operate in the same direction, and cause a curtailment in the use of fertilizer. On the other hand, those who study the cyclical theory in connection with boll weevil, believe that 1931 will be the second year in succession of comparatively little damage from this source. Meanwhile Congress, has passed the bill appropriating $45,000,000 for drouth relief which may improve the ability of planters in some States at least to secure seed and fertilizers for next season's crop. The Farm Board appropriation bill has also been passed by Congress providing funds for a continuation of operations in various agricultural products, including cotton, and some consider it quite possible that the Farm Board will find it necessary to finance additional purchases by the Cotton Stabilization Corporation to deal with the surplus from the present crop. Whether this proves the case or not, may depend in some measure upon the development of early coming crop prospects and their reactions upon the general market. By comparison with recent years, the cotton trade feels that prices are too low, but the basic idea of values has been more or less unsettled by the decline in all commodities including silver and confidence in ultimate prices based upon prospects for acreage reduction and recovery in trade, does not appear strong enough to create any general buying, while outside conditions remain so unsettled.

Accentuated Dullness in South

Memphis, Tenn., Dec. 22.—Dullness in the cotton market here is accentuated by the approach of the holidays and the inventory period. Very little "Christmas cotton," is being offered, this for the reason that cotton was sold or financed for holding about as rapidly as ginned and the harvest is now practically completed. There has been an epidemic of bank closings, quite naturally disturbing, but without bringing about any increase in spot pressure. Many of these closings were not failures in the true sense, but precautionary measures in the face of threatened runs. Some have already reopened and most of the others are expected to reopen. Bankers were most conservative in their cotton production loans last spring; where they are faced with losses it was due principally to crop failures for which drouth was responsible in the main.

Shippers are not expecting much new business until after the turn of the year. Mill inquiry is fairly active but mostly, even where small lots are involved, for shipment in January or later. Basis remains practically unchanged from the previous week. Quotations on staples are nominal. The wanted staples, such as 1⅛ in., are scarce. Principal demand

ACELE BULLETIN NO. 21

A job for Idle Spindles

HAS the demand for novelty yarns of **ACELE** and cotton touched you? It is a coming thing.

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is for strict good ordinary and low middling ⅛ to 1 3/32 in. but little for cotton shorter than ⅛ in. or for longer than 1 3/32 in. and shorter than 1⅛ in. Sales during the week totaled 13,811 bales against 33,078 bales last year and 38,109 the year before. The disposition of shippers is to hold aloof unless they can buy cotton suitable for tender on a tenderable basis. The weather during the week was mostly unfavorable.

◆Cotton Wastes Continue Quiet

THE prevailing quietness in cotton wastes continued during the week. Spot demand for all types of waste is negligible, and dealers do not look for any active resumption of buying on the part of consumers until mid-January at the earliest. Prices are nominal.

Dealers are concentrating attention upon the question of contracting for their waste supplies during 1931. The current year has been an extremely difficult one for successful cotton waste merchandising, marked as it has been by steadily declining cotton prices. Dealers are looking forward to 1931, however, with more hope and confidence, believing that the worst has been seen, and that any major movement in prices of raw cotton will be upward rather than downward. Another favorable factor, they point out, is the fact that stocks of good wastes are not excessive.

Bargain Days in Cotton Yarns?

Large Yarn Consumers Are Beginning to Nibble

THIS has been a normal December for cotton yarns. The average manufacturer wants to keep his inventory small as the end of the year comes to hand. In view of this few will see a sales volume for the month that will compare with November. In fact curtailing of purchases has been slightly more severe this year than ordinarily seen.

In one respect the month has been unusual and unlike the average December. A fair number of buyers representing several of the largest firms of their kind in the country have not only been inquiring for yarns to be delivered during the first half of next year but a number of such contracts have been placed. Indications at the middle of the week were that more would be closed before the end of the year.

Smaller Mills Hang Back

In other words a number of what are generally considered to be the shrewdest buyers have been in the market. This is not true of the average small buyer of cotton yarns. The latter are not only refusing to order ahead but they have been refusing deliveries as end of year came on old contracts.

Large purchases of insulation yarns, reported several weeks ago, are an example of this forward buying. One house reports that others have been in the market within the last week seeking to place orders of the same type, contracts that covered at least a part of these firm's requirements for the first six months of next year. One concern has made inquiry for yarns to be shipped during the second half of the year to follow present orders.

From a seller's standpoint this business, while showing that many buyers feel that prices are on the bottom, also indicates what is self evident to spinners. It shows that bargains are available to such buyers and few spinners want to commit themselves so far ahead with no-profit business. Yet there are a sufficient number who are willing to sell a portion of their 1931 production to make it possible for buyers to obtain all the yarn wanted.

The market during the last 10 days has given the impression that it is liquidated. Prices have held steady in the face of general lack of demand from the average manufacturer and smaller specifications. Sales of 20s-2 warps have not been reported less than 21c. for a fair grade, showing little change from last week. Hosiery cones have held unchanged at 19c. basis for 10s.

The change in weaving counts has not been sufficient to cause any general revision in the market level. Carded knitting counts held without any change because of the better statistical position of these yarns, which have been bought further ahead than weaving. Competition in knitting is not so keen as in weaving.

The seasonal lull approached a state of complete inertia in southern selling centers this week. Sales were few and far between and consequently prices were practictlly nominal. Carded qualities were quoted at 21c. for 20s-2 warps and 26 to 27c. for 30s-2 warps. Combed yarn spindles of Gaston County were operated last week at approximately 54% of normal, showing a slight increase over previous week. More active schedules were adopted by spinners to afford employes additional wages for Christmas shopping.

Cotton Goods Stability Needed

End-of-Year Selling Weakens Entire Market

IT IS easy to lose one's perspective in the rather exciting markets that have been made by cotton goods sellers during last two weeks. Prices were named by representative houses which made purchases of October and November look sad. There has been much dismay on the part of buyers. An example of this was seen at the annual meeting of converters.

One of the speakers asked how the market could expect anyone to have confidence to buy when prices were not held by sellers even a day after a good-size volume of goods had been sold. That all sellers should not be placed in the same boat is to be seen in the announcement of Woodward, Baldwin & Co., that mills they represented were withdrawing their lines for the time being.

Spot Goods Sales Forced

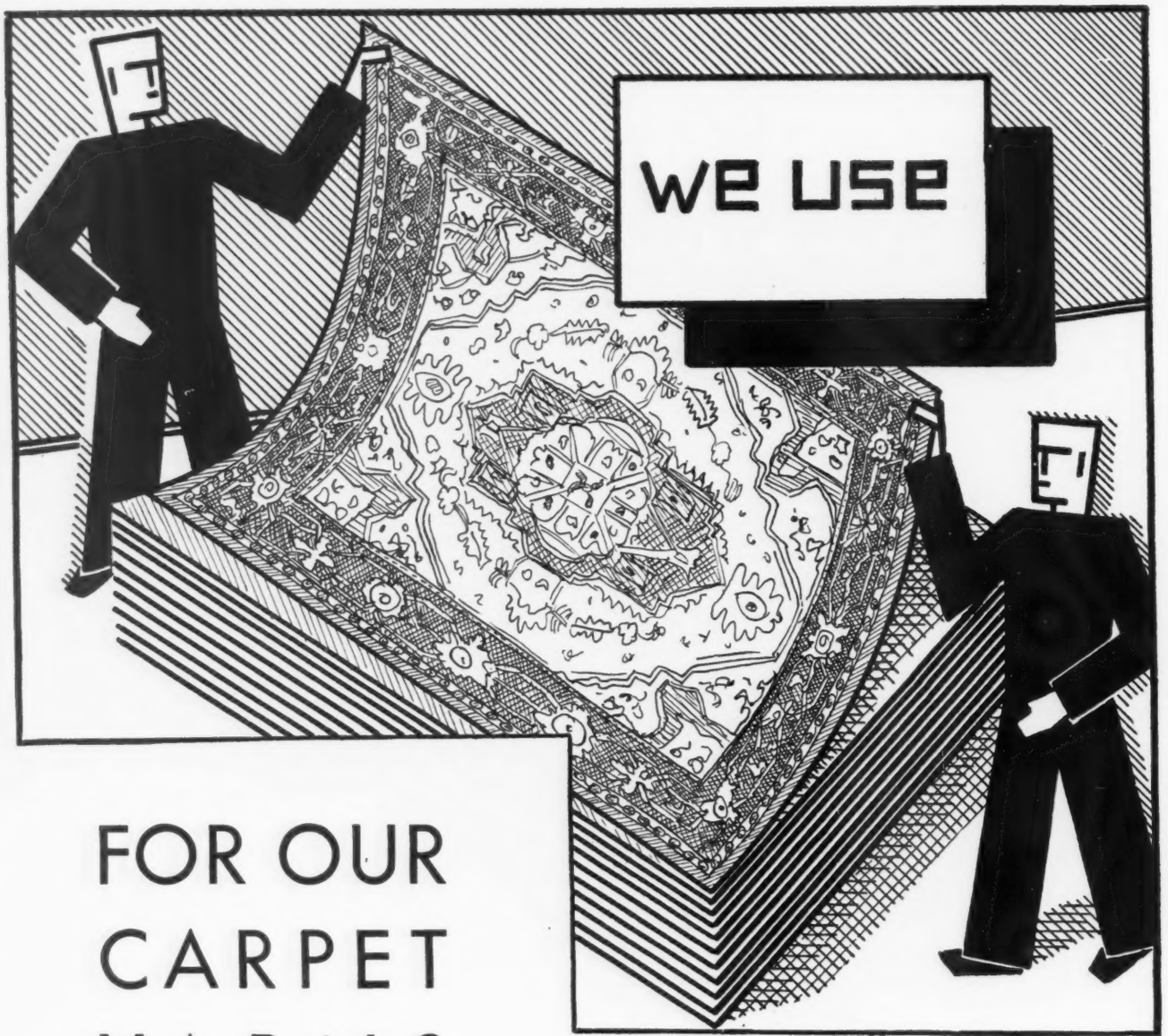
There has been considerable weakness in spot goods, showing that sellers have not had any patience to speak of, and have forced business when it was not the time to do so. The price-cutters have done some business but the volume did not compensate by far for the damage done to the market generally, to their competitors, and last but not least, to their own customers who had bought heavily from them previously.

Yet conditions differ when buyers want to talk about January and later deliveries, and underneath the surface the market seems to have kept its feet on the ground. After the first of the year, unless more sellers lose their heads, fundamentals will force things back to a more sane basis.

80-Squares the Target

The most active print cloth and the one that is in the best statistical position, 80-squares, has sold down to 7¼c. for February and March shipments; at 7⅛c. for January and February; December lots were well cleaned up at 7½c. although a few sellers claim they obtained 7¾c. for spots. Unloading for deliveries before the end of the year is about over.

It appears that owners of cotton goods want almost anything but to have these goods counted in their inventory. The desire for small stocks has done considerable damage to the market. Benefits which have come even to houses that have booked most of the low-price business will not make up for the set-back prices have met.



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Wools Await Buying Stimulus

Marketing Corporation a Stabilizing Factor in Uncertain Period

THE Wool Marketing Corp. is still carrying out its policy of orderly marketing and not without fair measure of success. Wool consumption this year will run from 25 to 30% below that of a year ago, which on the face might indicate large supplies of unsold wool. Maintenance of current prices on the unsold balance of the 1930 clip is the problem of paramount importance to both cooperatives and independents. The cooperative organization is maintaining a firm front, under cover of which it becomes possible for independents to reduce their holdings by selling slightly below the market. Mills are not adding to their stocks at this time, having year-end inventories in view and also being influenced to a considerable degree by absence of confidence seen in the goods market.

Sounding Out Market

Some large mills are sounding out the market, anticipating concessions, but finding that present wool holders are not desirous of relieving themselves of good property below cost. Until mills get their bearings on new year cloth developments, little of importance is likely to be seen in the wool district. The marketing corporation can not be left out of the picture in any attempt to forecast the probable trend of domestic wool values. The situation, at the moment, assumes the character of a deadlock.

No attempt is being made in the wool district to minimize the grave industrial situation reflected in extremely cautious buying of wool at the lowest prices. There is no excess of optimism and yet there is opinion favoring an upturn in values in the near future. It is recognized that the manufacturing situation is in a good position to execute any and all kinds of business and that the real weakness has been in methods of merchandising. Action of the American Woolen Co. in placing merchandising men at the head of its organization is viewed with general favor. The American has not been buying much wool recently, but is plentifully supplied with capital and is not unlikely to be a strong sustaining factor in the wool market in the new year.

Late English advices state that there is still a big weight of Australian and New Zealand wools to lift, though at this time the manufacturing demand, particularly on Canadian orders has led to an increase in the activity of wool machinery. The worsted branch is still in the doldrums, with tops and yarns generally below pre-war prices. Warp 64s have fallen to a new low record of 23d.

Competition for business among woolen rag graders continues to force prices downward. Cash seems preferable to stocks. Prices are barely firm and in all lines the buyer holds the whip hand. White materials continue depressed, not merely by lack of substantial orders but because of low prices seen in wools, noils and wastes. It cannot be said that the market shows any improvement since the first of the month. Clips continue to arrive from Europe in small quantities.

Mixed Rags Near Record Low

Not since 1921 have mixed rag prices been so low, and only for August of that year was the average price of 4.25c. made. In 25 years no other month showed so low an average price. Any lower basis than 4.50c. now current, seems incredible, not overlooking, however, the possibility of some quick downward dip and an equally rapid upward turn. Complaint is becoming more general in the Dewsbury market that consumers are able to buy many grades considerably below pre-war prices. This is true also of wool in the English market, but not in the American market.

Poor Business In Wastes

Although wool waste is on a low price basis, mill buyers who occasionally show some interest in the situation do not seem to regard any type of waste as actually on the bargain counter. This is probably their habitual state of mind and the attitude is not shared by dealers who find it no easy matter to break even on their sales. The center of interest in the market is white threads. Small imports continue to arrive from the old world costing around 53c. It is hardly likely that these materials can be sold at a profit at this time. All kinds of wool by-products in the local market have been suffering for a long time because of low wool prices coupled with the decline in woolen manufacture. The Bradford market is in a similar plight, many merchants finding their stocks burdensome because of lack of orders and the price trend still pointing downward.

Specialty Noil Imports

In absence of sizeable noil business, traders and others are giving more consideration to aspects of the woolen situation with a view to forecasting and anticipating the kind of a market they are likely to meet in the new year. Prices are not quotably lower but it is manifestly a buyer's market. Most dealers have become reconciled to a scarcity of real business until the new year arrives. Consignments of specialty noils from the foreign noil markets may be regarded as an indication that the woolen branch of manufacturing is approaching a turn for the better, these commodities being exclusively used in fabrics of woolen manufacturing. Another consignment of 30 bales of camelhair noils arrived from Bradford during the week and there was also a consignment of white silk noils totaling 66 bales.

Small Worsted Yarn Month

Sales and Deliveries Decline as Expected

ASIDE from small but steady specifications coming from manufacturers of fancy men's wear, worsted yarns have been quiet. Little is happening in dress goods yarns or in counts that are largely taken by outerwear field. In addition to lack of interest always found toward the end of the year, the market is faced with price uncertainty.

The small amount of new business placed this week and last shows a wide range in ideas between different spinners. This does not make for confidence among buyers and has added to the normal end-of-the-year apathy. Spinners will have to correct this condition before confidence is restored whether this month or next.

More Confidence Needed

When larger buying takes place manufacturers believe a new and lower price level will be established. Spinners do not see why this will come in view of the fact that their margins are small and until wool shows greater declines they assert there is little basis for this. Since French spun counts have been more active than English, buyers anticipate greater resistance in the former until spinners of latter group book some business especially in weaving numbers.

Lateness in buying by all manufacturers is another important reason why the market is at a standstill. Manufacturers say they do not know yet what spring lines will sell; therefore they are unable to say yet what type yarns they will require for these goods.

Spinners are refusing to operate far ahead in wool for the same reason. This may be seen by the large number of bathing-suit manufacturers that have yet to order yarns for their next season lines. They say they do not know whether their volume will come in

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quarter-blood suits or in fine. Spinners do not know whether to buy fine wools in volume or concentrate as last year on their 50s.

What About Bathing-Suits?

This means that spinners' and manufacturers' warehouses will be well cleaned out and the trade will be working on a severe hand-to-mouth basis when spring orders come in volume. It may mean that there will be a rush at the last minute and specialty manufacturers needing yarns out of the usual run will have to wait longer for deliveries.

There is steady although small buying of men's wear mixtures. Orders are coming through for 500-lb. lots of mixes from manufacturers who usually order in 25,000-lb. lots. They are ordering 500 lb. of this color and 250 lb. of that; while such business is disconcerting to spinners, it amounts, at the end of the month, to fair proportions.

Stocks No Larger

Stocks are not accumulating although curtailment is not so great as that noted among cotton yarn spinners this year. Knitting yarn spinners will close for a week in most instances over the end of the year. Weaving yarn spinners have been operating on reduced schedules for the month and in addition will close for inventory purposes so that stocks are not expected to show any important change notwithstanding small demand this month.

◆Rough Dress Goods Wanted

ALTHOUGH new business has not been placed this week, dress goods houses and mills are in a fairly comfortable position. Many mills have advance spring orders on their books which will keep them operating until volume business comes. In addition they are making deliveries on flannels and various woolens used for southern resort wear.

Nubby dress goods in woolens and the crepe effects in worsteds are proving good sellers. While only sampling has been the rule with most buyers, their reception has been more than favorable.

Worsted crepes are wanted for the higher-price ranges although this condition may change before the spring season comes. Popular lines are nearly always cheapened and leading dress goods mills are hoping that competitors will find it impossible to duplicate these attractive fabrics in cheaply made goods.

Blue Shades For Spring

Reds and light greens have been active, but the most popular shade is blue, varying from navy to jade. Indications are that this color will lead black in spring goods.

Wool coating manufacturers have had little competition this winter, having the field to themselves and if normal buying had been seen they would have had one of the largest seasons in many years. There were few fur or pile coats sold, and standard woolen fabrics were wanted. While January sales will increase this season's volume, the total will not reflect the proportionate gains made by woolen materials this season. Several sellers have booked orders for fabrics to go into January sales coats.

Quietness is the rule in men's wear. The season is slower to develop than dress goods and buyers are more worried about price than in women's wear. Chain stores in many instances are holding prices of suits at the $22.50 level, using better fabrics instead of reducing price. Well-informed factors say that it is possible to buy a suit for $22.50 today which compares, in quality of fabric used, with $40 suits several years ago.

Raw Silk Continues Strong

Nearby Prices Tighter Despite Drop in Orders

THE volume of raw silk trading fell approximately 33⅓% in the New York district Christmas week, but the tone held firm and spot prices even tightened; advances of one to three cents were noted in spot quotations. Sentiment regarding January has improved, and importers generally look for a decided pick-up after the holidays; that this was something more than "professional optimism" was indicated by the condition of the broadsilk mills. These firms have only the very minimum stocks of raw silk on hand and will be obliged to cover quickly in January to continue normal output of spring fabrics.

Weavers are still a bit hesitant regarding the permanence of the present strength in the primary market; customers frequently tell their raw silk sources that they would buy for January and February, if they were sure of no recession; these firms naturally are not keen to repeat, even in part, the losses incurred last year, when they bought "high," and silk will have to maintain its strength for some time longer, before the broadsilk trade will be thoroughly convinced of its stability.

Japan Firm

The Japanese market remains firm, thanks to low stocks and to the beginning of the closing season. Some filatures have already closed, but the bulk of the industry probably will not shut down for some weeks yet; the customary January shutdown is expected to have a firming effect on prices in both Yokohama and New York. New York importers are advised that the filatures will observe the annual closing more generally than in other years, and they look for a considerable extension of the non-production period.

Hesitant on Drive

Although all the officials of the American silk trade have strongly endorsed the Japanese plan for a silk popularization campaign in this country, to begin in July, the importers as a whole are hesitant about expressing any opinion one way or the other. In the abstract, they favor the idea, but factors interviewed this week leaned to the belief that the chief effect of the drive would be to stimulate the promotional campaigns being waged by other textile groups. As a whole the importers have adopted a watchful waiting policy on the proposition; they are sympathetic, but not wholly convinced on two major points—first, that the necessary funds will actually be available, and second, that the results obtained will justify the effort.

◆Silk Yarn Market Prices Hold Steady

BOTH of the silk yarn markets entered the holiday period in a fairly steady condition. Spun silk, of course, is in decidedly a better position than thrown yarn, as regards future business, but neither group will write a heavy inventory and prices are steady all along the line. Spinners were receiving inquiries for spring commitments right up to Christmas, and while orders showed the usual holiday let-up, broadsilk manufacturers indicated a continued interest, with promise of a resumption of active buying in January.

Spinners Confident

Spinners are confident about the outlook on all points barring the vital factor—price; prices are still a source of complaint as they leave a meager margin, and the market now is not so confident as it was a month ago, regarding January prospects for an increase. In view of the conditions in other textile divisions, spinners feel rather lucky that they are enjoying a healthy turnover and it may be assumed that only an exceptional boom in yarn demand would bring an advance.

Thrown silk mills are shutting down for the holiday period, and year-end stocks are encouragingly low. Prices firmed up due to the stronger tone in Yokohama, but there has been little demand. Neither hosiery knitters or broadsilk mills placed any appreciable

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quantity of business immediately prior to Christmas. Sales executives regard the situation as deadlocked, pending the advent of the new year.

Quiet Week in Rayon

Holiday Period Brings Lull; Spring May Cut Surplus

THE surplus problem continues to cause some concern in the rayon market, but producers grow more optimistic as Dec. 31 approaches. Insistence by part of the industry on capacity output, against an easing-up in demand, tends to build up accumulated stocks; some of these plants are believed to have substantial quantities of yarn for carry-over, and this, plus the considerable stocks in the hands even of firms which did curtail drastically, will aggregate a total variously estimated at between 22,500,000 and 27,500,000 lb. Certain companies are very confident about 1931 improvement in demand, and are relying on that development to reduce their surplus; conceding that this is a rather dangerous policy, there is no occasion for great worry as yet, since the total apparently is only a few million pounds beyond the two months' stock in hand which some of the most conservative producers regard as a reasonable margin.

HOLIDAYS DEMAND LIGHT

Christmas brought the accustomed slackening in demand. Knitted underwear mills bought less than their usual allotmen, and cotton weavers also eased up, this week. The cotton mills continued active through the pre-Christmas week, and there was a flurry of small orders for yarn. Some producers were writing business up to the third week of January, but there was practically no business beyond that point. The disinclination of mills to utilize the 60-day price guarantee appears to be based on desire for low inventories, and producers expect Jan. 2 to mark an upward turn in buying, even though there is no change in the picture as regards prices. Cotton weavers are confident regarding the spring prospects for their all-rayon and cotton-and-rayon fabrics, and are planning extensive lines, and it is only a sort of psychological hesitancy, together with the desire for minimum carry-over, that causes deferment of yarn orders. Talk of a January revision continues, though it is still totally without official basis. These rumors have become so strong as to affect the movement of rayon underwear, and some factors were of the belief this week that yarn producers would find it advisable to make some statement of policy.

◆Broadsilks Await January Pick-Up

BUSINESS suffered the usual Christmas slump in the broadsilk trade, and Monday brought a lull so marked that New York sales executives gave up hope of any real movement prior to January. The movement of silk ready-to-wear has slackened, causing a proportionate slackening of fabric purchases by garment manufacturers. A fair smattering of orders, all small and mostly for quick shipment, were placed toward the end of last week; future buying, which had been promising in the week previous eased off, and the quantity of spring business placed during the current week was nominal.

Broadsilk weavers are uncertain regarding carry-over. The big mills succeeded in clearing some of their winter remnants by slashing prices, and some of these houses will write comparatively light inventories. The medium-sized and small mills are believed to have considerable stock on hand, however. Just before the lull, a moderate quantity of spring business was placed, the chief call being for printed flat crepes; there was also some feeler orders for shantungs, but these, like the other rough goods fabrics, are still slow.

BIG FIRMS CONFIDENT

The chief fabric producers take an optimistic view of the outlook and several said this week that their stocks were well below this time last year. It is understood that certain firms curtailed production so radically that they lost orders. Such surplus as the larger mills will carry-over is made up chiefly of novelty and discarded lines. Plain flat crepes for spring are slow, but demand registered some improvement last week, and some firms received bulk orders for weekly shipment through the first months of the coming year.

Swimsuit Knitters Confident

Good Future Demand Reported; Other Markets Are Backward

KNIT goods demand has been fairly satisfactory through the pre-Christmas period but orders dropped on Monday and Tuesday of the current week, this being normally a "dead" week for both mills and jobbers. The holidays brought their usual slackening of interest in certain divisions, notably in heavyweight underwear and in some sweater lines, but other groups held steady.

Outerwear is showing up strong as regards bathing-suits; knitters find a steadily increasing interest in 1931 swimsuits and neither jobbers or retailers have much hesitancy with respect to covering for their requirements for next season. There is substantial swimsuit business already placed, and indications point to continued activity in January. Spring sweaters are in a less satisfactory position; buyers placed numerous small spot orders for holiday fill-ins, and some stores which ran low on Christmas merchandise were pressing the trade for quick delivery of duplicates. As a whole, however, spring sweaters are backward and no real interest is expected before the new year.

HALF-HOSE SALES IMPROVE

Large producers of half-hose have done a good December business to date, the only complaint being that prices are soft. The current week brought a slackening due partly to Christmas and partly to the fact that some important mills will show their spring fancies early in January. Several leading firms found their holiday half-hose business to be on a par with last year. Women's full-fashioned hosiery in popular-price range is selling into January, but the orders are discouragingly small. There is some talk of a price raise in February, if raw silk continues to rise, and numerous of the bigger mills refuse to quote current prices on orders beyond the 30-day limit. Grenadine hosiery demand increases steadily and, while it is still far below tram in volume, it promises to be more important next month. A careful survey of the full-fashioned surplus situation seems to indicate that some of the volume mills will write reasonably small inventories this year. Several firms began curtailing two months ago, and have cleared a lot of their surplus. However, the situation is far from satisfactory. Scores of medium-sized and small firms are producing at capacity, and these units will undoubtedly carry heavy stocks over into 1931.

HEAVYWEIGHT PRICES FIRM

Heavyweight cotton underwear demand has registered a sharp decline, but mills are in good position, due to careful watch on production. Recent announcements of price cuts by several firms appear to have had no effect on the market, and underwear knitters as a whole are confident prices will hold steady until the 1931 openings. It is now generally accepted that January will bring a further movement of remaining heavyweight stocks—sufficient to push the new openings off into February. Springweight cottons move slowly; retailers are so determined on

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low inventories they refuse to buy more than the week's actual needs. Rayon underwear sales have slackened, due largely to reports of a January price cut; this report is of a piece with the rumor than rayon yarn prices will be reduced. It has no official basis, but is strong enough to make jobbers and retailers hesitant regarding future business.

Quiet Year-End in Financial Field

Some Loss-Taking for Tax Purposes Noted in Special Sales

A QUIET year-end is being recorded in textile financial circles. Some loss-taking for tax purposes has been noted but the general situation has been without much change. The industry has become reconciled to poor statements covering 1930, but hopes that 1931 when compared with 1930 will show gains that will be encouraging. Not all the 1930 statements show losses, however, as instanced by a number summarized below.

Kilburn May Reduce Capital

Stockholders of Kilburn Mills, New Bedford, Mass., will vote at a special meeting, to be held Dec. 30, upon recommendation of directors to reduce par value of capital stock from $100 to $75 by the cash payment of $25 per share. In a letter to stockholders the directors state that since the annual meeting on Nov. 24, 1930, they have given careful consideration to the reduction proposed at that time, and feel that not more than $25 in cash per share can safely be paid without unduly weakening present working capital. In the event that the recommendation is adopted by stockholders the first instalment of $15 will be paid on or before Jan. 29, 1931, and the balance of $10 on a later date to be determined by the directors. Present capitalization consists of 22,500 shares, so that the disbursement if and when approved by stockholders will amount to $562,500.

Onondaga Silk Sales Gain

Directors of the Onondaga Silk Co., Inc., of Ogdensburg and Syracuse, N. Y., have declared the usual quarterly dividend, and on figures covering the first 11 months of this year, as compared with the same period a year ago, the volume of sales has gone ahead 25%, according to Phillip A. Vogelman, first vice-president and general manager of Onondaga. Mr. Vogelman stated that net profits over the same period show a "substantial increase." Jules L. Foreman, recently elected vice-president, has been made a director, it was announced.

Jantzen Quarterly Report

Sales of the Jantzen Knitting Mills and its subsidiaries and allied plants, not including the London plant, for the first quarter of the fiscal year aggregated $1,228,359, according to a recent report by officials at the home office in Portland, Ore. Orders, including volume now handled by London plant, total $1,791,413. Domestic merchants have been slow to place orders as far in advance of requirements as last year.

European business, the major portion of which will be handled from Portland, shows a gain of 36% over last year, according to latest cabled advices from Jantzen Knitting Mills, Ltd., London, which is direct sales center for England and the continent. Export business controlled entirely from Portland shows an increase of 15% and it is the belief of company's officers that the coming year will be in keeping with past records.

Real Silk Hosiery Net

Porter M. Farrell, president of Real Silk Hosiery Mills, Inc., announced recently that earnings of the company for the current year will be equal to about $5 per common share and, based on this figure the *Wall Street Journal* estimates that net profit of more than $1,150,000, after taxes, charges and subsidiary dividends, should be shown by the firm. This would compare with 1929 net profit of $2,020,486, equal to $9.29 a share on 200,000 shares of $10 par common stock.

du Pont Offers Stock to Employees

It is announced that E. I. du Pont de Nemours & Co., Inc., is inaugurating an employee stock investment plan for 1931, in which the workers may obtain the debenture stock at $117 a share. Subscriptions may be made on the monthly payment plan or in full. Any employee of the parent company or the subsidiaries having one year or more of service and not earning over $6,000 a year is eligible to participate.

Dividends Declared

Directors of Riverside & Dan River Cotton Mills, Danville, Va., have declared the regular semi-annual 3% dividend on the $7,500,000 preferred stock issue, payable Jan. 1, 1931. No dividend on the common stock was declared. The action of directors in voting this distribution of $225,000 indicates that the company is in a strong financial position despite the strike of union employees of the mill which has been in effect for some time. The plant is being operated at present on a curtailed production schedule.

Farr Alpaca Co., Holyoke, Mass., has declared the regular quarterly dividend of $2 per share payable Dec. 31, 1930, to stock of record Dec. 19. In addition directors voted to pay each employee of the past year a bonus of 8% on their individual earnings.

Directors of United Piece Dye Works, Lodi, N. J., have declared four quarterly dividends of 50c. per share on the common stock, payable Feb. 1, May 1, Aug. 1 and Nov. 1, to stock of record Jan. 15, April 15, July 15 and Oct. 15.

Urges Universal 48-Hr. Week

Naumkeag Steam Cotton Co. on Dec. 23 declared 2% quarterly dividend on common stock payable Jan. 2 to stock of record Dec. 24.

"The cotton industry must adopt a shorter work week if it is to prosper. This is an age of mechanization, of constant improvement in machinery and efficiency and of great overproduction. The solution of the problem as far as textiles are concerned is a universal 48-hour week," declared Ernest N. Hood, treasurer of Naumkeag, in a statement issued on Dec. 23 in connection with a meeting of the board of directors.

"I think 1931 will be a much better year than 1930," he said, in discussing the prospects for the new year. "Yet so long as there remains a large overcapacity to produce I fear there will be a more or less constant condition of unprofitableness in our industry."

Bibb Shows Smaller Profit

Bibb Mfg. Co., cotton goods, Macon, Ga., reports for the fiscal year ended Aug. 31, 1930 net profit of $112,000, equal after preferred dividends, to 56 cents per share on 200,000 shares of common. Net for 1929 was $3,369,000, or $15.34 per share of common, and for 1928, $2,834,000, or $12.67 per share of common.

On Jan. 1, 1931 the company will retire at $100 and accrued dividend the $5,000,000 6% preferred stock given as a 50% stock dividend in 1925. The company has a remarkable earnings record, and since 1916 the following stock dividends have been paid: 1916, 66⅔%; 1917, 20%; 1918, 100%; 1923, 33⅓% and 100% in 1927.

Japanese Spinning Merger

A merger of the Toyo and the Osaka Godo cotton spinning companies in Japan with a combined spindlage of more than 1,000,000 and a capital of 65,000,000 yen was recently announced. The Toyo Spinning Co. has declared a dividend of 18% and 2% additional in celebration of its amalgamation with the Osaka Godo Spinning Co. according to a cable, from Commercial Attaché Halleck A. Butts, Tokyo, to the Bureau of Foreign and Domestic Commerce. The Japanese trade, however, does not expect the dividends of other spinning companies to make as good a showing.

QUOTATIONS

at close of business, Dec. 23, 1930
Prices cover average qualities unless otherwise stated

Cotton Goods

	Dec. 24	Dec. 17	Dec. 24 1929
PRINT CLOTHS			
27 -in., 64x60, 7.60	3½c	3⅜–3½c.	4½c.
38½-in., 64x60, 5.35	5¼–5¼c.	5–5¼c.	6¾– 7c.
39 -in., 68x72, 4.75	5½– 6c.	5½– 6c.	7½– 8c.
39 -in., 72x76, 4.25	6¼–6½c.	6½c.	8½–8¾c.
39 -in., 80x80, 4.00	7¼–7½c.	7½–7¾c.	9¼–9½c.
BROWN SHEETINGS			
36-in., 56x60, 4.00	6 –6¼c.	6¼c.	8c.
36-in., 48x48, 3.00	6¼–6½c.	7 c.	9¼–9½c.
37-in., 48x48, 4.00	5¼x5¼c.	5¼c.	7¼–7¼c.
PAJAMA CHECKS			
36½-in., 72x80, 4.70	6c.	6c.	8–8½c.
36½-in., 64x60, 5.75	5c.	5c.	7 c.
MISCELLANEOUS			
Drills, 37-in., 3 yd	7½c.	7½c.	10½c.
Denims, 2.20	12¼c.	12½c.	15c.
Tickings, 8 oz	16 c.	16 c.	20–21c.
Standard prints	7¼c.	7¼c.	9½c.
Eastern staple ginghams, 27-in.	8 c.	8 c.	10 c.

Cotton Waste

Peeler comber	8½— 8¾
Peeler strips	7½— 8
Sak. comber	7¾— 8
Choice willowed fly	4½— 5
Choice willowed picker	3 — 4½
Sak. strips	10½—11
Linters (mill run)	2½— 3½
White spooler (single)	7½— 7¾

Cotton Yarn

CARDED (Average Quality)
Double Carded 2c.—4c. higher according to quality

SINGLE SKEINS OR TUBES (Warp Twist)

4s to 8s	$0.19	22s	$0.22½
10s	.19 – .19½	24s	.23 – .23½
12s	19½– .20	26s	.24 – .24½
16s	.20 – .20½	30s	.25½– .26
20s	.20½– .21	40s ex. qual.	– .37

TWO-PLY SKEINS AND TUBES

8s-2	$0.19	26s-2	$ .24½– 25
10s-2	.19 – .19½	30s-2	.26 – 26½
12s-2	– .19½	36s-2	– .32
14s-2	– .20½	40s-2	.33 – .34
16s-2	20½– .21	49s-2 hi.brk.	.37 – .38
20s-2	21 – .21½	50s-2	– .42
24s-2	23½– .24	60s-2	– .52

SINGLE WARPS

10s	$0.19	24s	$0.23½
12s	– .19½	26s	– .24½
14s	.19½– .20	30s	– .26½
16s	.20 – .20½	40s ex.qual.	.38 – .39
20s	.21 – .21½		

TWO-PLY WARPS

8s-2	$0.19½	24s-2	$0.24
10s-2	.19½– .20	26s-2	– .25
12s-2	.20 – .20½	30s-2	– .26½
14s-2	.20½– .21	40s-2 ordin.	.34 – .35
16s-2	– .21	50s-2	– .43
20s-2	– .21½	60s-2	– .53

8s-3 and 4-ply skeins and tubes; tinged, 17; white, 19; waste, 16½

HOSIERY CONES (Frame Spun)

8s	$0.18½– .19	22s	$0.22 – .22½
10s	– .19	24s	.22½– .23
12s	– .19½	26s	.23 – .23½
14s	– .20	30s tying	.25 – .25½
16s	– .20½	30s reg	.26½– .27
18s	– .21	30s ex.qual.	.28½– .29½
20s	– .21½	40s	– .35

COMBED PEELER (Average Quality)

TWO-PLY—(Knitting Twist) Cones

20s-2	$0.34 – .35	60s-2	$0.54 – .55
30s-2	.39 – .40	70s-2	.64 – .65
36s-2	.40 – .41	80s-2	.76 – .78
40s-2	.42 – .43	90s-2	.92 – .95
50s-2	.47 – .48	100s-2	1.15 –1.20

WARPS, SKEINS AND CONES

TWO-PLY—(Warp Twist)

20s-2	$0.35	60s-2	$0.55
30s-2	– .40	70s-2	– .65
36s-2	– .41	80s-2	.77 – .80
40s-2	– .43	90s-2	.95 –1.00
50s-2	– .58	100s-2	1.18 –1.20

SINGLES

12s	$0.27½	30s	$0.37½
14s	–.28	38s	– .40
16s	–.28½	40s	.40½– .41
18s	–.29	50s	.46½– .47
20s	–.30	60s	.53½– .54
24s	–.32½	70s	– .64
28s	–.36	80s	– .75

MERCERIZED CONES—(Combed, Ungassed)

26s-2	$0.50 – .51	90s-2	$1.29 –1.32
30s-2	.52 – .53	100s-2	1.59 –1.61
36s-2	.55 – .56	120s-2	1.98 –2.05
40s-2	.58 – .59	30s	.63 – .65
45s-2	.60 – .61	40s	.68 – .70
50s-2	.62 – .64	50s	.75 – .77
60s-2	.70 – .72	60s	.83 – .85
70s-2	.82 – .84	70s	.95 – .97
80s-2	.94 – .98	80s	1.17 –1.19

Cotton Prices and Statistics

FLUCTUATIONS OF FUTURES

	Closed Dec. 18	For Week High	For Week Low	Closed Dec. 23	Net Chge.
December	9.65	9.80	9.63	9.64	—.01
January	9.64	9.76	9.51	9.56	—.08
February	9.84	9.88	9.76	9.76	—.08
March	10.00	10.10	9.85	9.90	—.10
April	10.11	10.15	10.04	10.04	—.07
May	10.25	10.37	10.08	10.18	—.07
June	10.35	10.40	10.29	10.29	—.06
July	10.47	10.60	10.32	10.41	—.06
August	10.55	10.60	10.50	10.49	—.06
September	10.55	10.60	10.49	10.49	—.06
October	10.67	10.79	10.54	10.59	—.08

SPOT FLUCTUATIONS FOR WEEK

(Middling)

	New York	New Orleans	Liverpool
Friday, Dec. 19	9.75	9.44	5.32
Saturday, Dec. 20	9.85	9.54	5.31
Monday, Dec. 22	9.80	9.44	5.36
Tuesday, Dec. 23	9.80	9.44	5.28

FOREIGN COTTONS

Egyptian Cotton

Alexandria Exchange, Dec. 22		Change
January Sak	14.33	+0.21
February uppers	10.88	+0.58

Dec.-Jan. Shipment c. i. f. Boston.
(Tariff not included)

Fully good fair Sak	16.42
Fully good fair to good Uppers	13.50

(By Anderson, Clayton & Co.)

Foreign cottons	F. O. B. New York, Cents
Peruvian Tanguis Strict Middling	1)
Peruvian Pima No. 1	2)
Peruvian Moderate Rough	16
Peruvian Full Rough	21
China Tientsin No 1	9¾
India Rough	7 to 10
India Smooth	7 to 10

(By Gerald G. Loeb, New York.)

BASIS MIDDLING

	Saturday, Dec. 20	Saturday, Dec. 13
10 markets average	8.99	8.90
Memphis	8.40	8.25

PREMIUM STAPLES

First Sales from Factors Tables at Memphis

Grade Strict Middling	Prices Nominal
1⅛-in	11.15—11.40c.
1 3/16-in	12.75—13.00c.
1¼-in	17.50—17.75c.

CURRENT SALES

	For Week	Prev. Week	Week Before
Memphis total	13,811	18,666	20,846
F.o.b. included in total	12,730	17,216	19,744
10 markets	91,741	98,014	113,108

MEMPHIS RECEIPTS, SHIPMENTS, ETC.

	For Week	Last Year	Year Before
Net receipts	18,427	32,410	39,617
Gross receipts	39,257	65,050	79,512
Total since Aug. 1, net	510,573	650,269	492,477
Shipments	40,389	58,901	61,491
Total since Aug. 1	621,169	900,389	779,977
Total stock	400,045	397,649	244,864
Decrease for week	1,132	*6,149	*18,016
Unsold stock in hands of Memphis factors	80,513	52,389	.....
Increase for week	5,846	936	.....

*Increase.

AVERAGE PRICE JANUARY SHIPMENT
HARD WESTERN COTTON
F. o. b. New England

	Middling	St. Middling
1 1/16 in	12½–12½c.	12½–12½c.
1⅛ in	12½–13½c.	13½–13¾c.
1 3/16 in	14½–15 c.	15½–16 c.
1¼ in	18½–20½c.	19½–21½c.

Basis on New York, New January 9.68c.

SPOT FLUCTUATIONS AND STOCKS

Market	Middling Dec. 17	Middling Dec. 22	Sales	Stocks This Week	Stocks Last Year
Galveston	9.65	9.55	2,112	692 892	509,780
New Orleans	9.61	9.44	7,257	785,575	518,862
Mobile	9.05	8.85	138	178,169	42,376
Savannah	9.34	9.18	394	307,339	89,093
Norfolk	9.63	9.44	325	97,148	73,385
New York	9.95	9.80	.....	229,115	97,983
Augusta	9.19	9.00	445	136,259	111,715
Memphis	8.60	8.45	9,792	401,564	401,956
St. Louis	8.65	9.00	.....	12,571	11,676
Houston	9.65	9.50	13,136	1,154,661	1,191,891
Dallas	9.00	8.85	18,488	.....	.....

DIFFERENCES ON AND OFF MIDDLING

WHITE GRADES

	Dallas	Memphis	Montgomery	Augusta	Average
M.F	.75†	1.00†	.85†	.75†	0.87†
S. G. M	.60†	.75†	.75†	.63†	.70†
G. M	.50†	.50†	.60†	.50†	.51†
S. M	.35†	.25†	.35†	.25†	.30†
S. L. M	.75*	.75*	.65*	.50*	.65*
L. M	1.50*	1.75*	1.50*	2.25*	1.45*
S. G. O.**	2.50*	2.75*	2.50*	3.50*	2.34*
G. O	3.50*	4.00*	3.50*	4.50*	3.29*

YELLOW TINGED

G. M	0.50*	0.75*	0.50*	0.50*	0.58*
S. M	1.00*	1.25*	1.00*	1.00*	1.03*
M.**	1.75*	2.00*	1.50*	1.50*	1.58*
S. L. M	2.50*	2.75*	2.25*	2.25*	2.22*
L. M.**	3.50*	4.00*	3.00*	3.00*	3.09

YELLOW STAINED

G. M	1.50*	1.75*	1.50*	1.50*	1.55*
S. M.**	2.25*	2.50*	2.50*	2.50*	2.33*
M.**	3.00*	3.25*	3.50*	3.50*	3.13*

BLUE STAINED

G M.**	1.75*	2.00*	1.75*	1.75*	1 65*
S. M.**	2.25*	2.75*	2.75*	2.75*	2.35*
M.**	3.00*	3.25*	3.75*	3.75*	3.13*

**Grades not deliverable on contract. †On Middling
*Off Middling.

Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA
(IN GREASE)

Fine delne..	$0.29 –$0.30	¾ blood.....	$0.28 –$0.29
Fine clthg ..	.24 – .25	½ blood.....	.28 – .29
¼ blood.....	.28 – .29		

TEXAS AND CALIFORNIA
(CLEAN BASIS)

Texas, 12 months	$0.70 –$0.72
California, Northern	.60 – .62

PULLED—EASTERN (CLEAN BASIS)

AA.....	$0.70 –$0.73	B-Super...	$0.45 –$0.52
A-Super....	.58 – .60	C-Super...	.41 – .43

MONTANA, IDAHO AND WYOMING
(CLEAN BASIS)

Staple fine	$0.71 –$0.73
Staple ¾ bld.	.65 – .68
Fine and fine medium	.65 – .68
½ blood	.58 – .60
¼ blood	.55 – .57

MOHAIR—DOMESTIC

Best Carding	$0.32 –$0.35
Best combing	.45 – .48

MOHAIR FOREIGN (IN BOND)

Turkey fair, average	$0.18 –$0.20
Cape firsts	.20 – .22

FOREIGN CLOTHING AND COMBING
(CLEAN BASIS IN BOND)

Australia:	
70s	$0.60 –$0.63
64s	.45 – .48
58s-60s	.40 – .42
(IN GREASE)	
Montevideo:	
58s-60s	$0.18 –$0.19
56s	.17 – .18
50s	.16 – .17
Buenos Aires:	
44, 40-44s	$0.12 –$0.13
36, 36-40s	.11 – .12

FOREIGN CARPET (GREASE BASIS IN BOND)

Aleppo	$0.25 –$0.26
China: Combing No. 1	.14½– .15
China Filling Fleece	.13 – .14
Szechuen ass't	.14 – .14½
Cordova	.13 – .14
Scotch black face	.14 – .15
East India: Kandahar	.20 – .22
Vican'r	.24 – .26
Joria	.23 – .25

Worsted Yarns

ENGLISH SYSTEM WEAVING

2-20s 36s	$0.87½– .90
2-24s 40s	.97½–1.00
2-26s 44s	1.05 –1.07½
2-28s 46s	1.10 –1.12½
2-30s 48s	1.15 –1.17½
2-32s 50s	1.20 –1.25

(Single yarns 5c. less than above)

2-36s, 58s	$1.32½–1.35
2-40s, 60s	1.40 –1.45
2-40s, 64s	1.45 –1.50
2-50s, 66s	1.60 –1.65
2-60s, 70s	1.97½–2.00

ENGLISH SYSTEM KNITTING

2-20s, 44s in oil	$0.87½– .90
2-20s, 48s in oil	– .95
2-20s, 50s in oil	.97½–1.00
2-20s, 56s in oil	1.07½–1.10
2-20s, 60s in oil	–1.27½
2-20s, 64s in oil	1.32 –1.35
1-15s, 46s dyed	–1.10
1-15s, 48s dyed	–1.12½
1-15s, 50s dyed	–1.15

(Oil yarns 17½c. less)

FRENCH SYSTEM

1-20s, 58s	$1.15 –$1.17½
1-20s, 60s	1.20 – 1.22½
1-18s, 64s, Dyed	1.42½– 1.45
1-26s, 64s	1.22½– 1.25
1-30s, 60s, Warp	1.30 – 1.32½
1-30s, 64s, Warp	1.35 – 1.37½
2-30s, 64s, Fancy mixes	1.62½– 1.65
2-40s, 64s, Zephyrs	– 1.50
1-50s, 66s	1.60 – 1.62½
2-50s, 66s	1.75 – 1.80
1-60s, 70s	1.95 – 1.97½
2-60s, 70s	2.10 – 2.15

FRENCH SPUN MERINO WHITE

1-30s, 50-50-58s on cops	$1.02½–$1.05
1-40s, 50-50-60s on cops	1.15 – 1.17½
1-40s, 50-50-64s on cops	1.17½– 1.20
1-40s, 50-50-64s Australian cops	1.25 – 1.30

Underwear mixes, 3c. additional.
Solid color, 35c. additional.

Tops and Noils

TOPS—BOSTON

Fine (64-66s)	$0.93–$0.95
Half-blood (60-62s)	.87– .89
High ¾ blood (58s)	.80– .82
Aver. ¾ blood (56s)	.78– .80
Low ¾ blood	.73– .75
High ½ blood (50s)	.70– .72
46s S. A. and N. Z.	.60– .63
44s S. A. and N. Z.	.58– .60
40s S. A. and N. Z.	.58– .60

TOPS—BRADFORD, ENG. (DEC. 18)

Fine (70s)	27 d	¾ bld. (56s)	15½d
Fine (64s)	23 d	½ bld. (50s)	13 d
½ bld. (60s)	20½d	Cross-bred (46s)	10½d
¾ bld. low (58s)	18 d		

NOILS—BOSTON

Fine	$0.51–$0.53	High ½ bld.	$0.38–$0.40
Half-bld.	.48– .50	Low noils	.33– .35
Aver. ¾ bld.	.43– .45	Medium colored	.32– .35
Fine colored	.41– .43		

Wool Substitutes

WOOL WASTE

Lap, fine white	$0.70 –$0.72
Lap, fine colored	.51 – .53
Hard ends, fine white	.53 – .55
Hard ends, ¼ blood white	.36 – .38
Hard ends, fine colored	.23 – .25
Hard ends, medium colored	.18 – .20
Card, fine white	.28 – .30
Burr, fine Carbonizing	.33 – .35

OLD WOOLEN RAGS (GRADED FOR MFRS.)

Merinos, Coarse Light	$0.06 –$0.07
Merinos, Fine Dark	.04½– .05
Merinos, Fine Light	.12½– .13
Serges, Blue	.06½– .07
Serges, Black	.07 – .07½
Serges, Red	.10½– .11
Knit, White	.21 – .22
Knit, red	.15 – .16
Knit, Light Hoods	.13 – .14
Worsted, Light	.05½– .06
Worsted, Blue	.07 – .07½
Worsted, Black	.07 – .07½

Silk Yarns

THROWN SILK (60 day basis)

	Nominal
Japan organzine, 2 thd. spec. gd. XX. sk. 85%	$4.15
Japan organzine, 2 thd. sp. crack. sk. 81%	3.80
Japan crepe, 3 thd. gd. XX bob. 83%	4.00
Japan crepe, 3 thd. sp. crack. bob. 81%	4.05
Japan crepe, 4 thd. crack bobbins, 78%	3.95
Japan grenadine, 4 thd. sp. grand singles, 87%	6.10
Japan grenadine 4 thd. 85%	5.75
Japan grenadine 3 thd. 90%	7.00
Canton crepe, 3 and 4 thd. ns. 14/16 on bobbins	3.10
Hosiery tram, 3 thd. Japan 90%	5.10
Hosiery tram, 5 thd. Japan, 85%	4.15
Hosiery tram, crack XX 78%	3.20

SPUN SILK YARNS (Terms: net 30)

40/2	$3.15	60/2	$3.35
50/2	3.25	62/1	2.35

Raw Silk

(60 day basis)
Prices Nominal

	13/15 White	20/22 White	20/22 Yellow
Super Grand, 86/88%	$3.80	$3.00	$3.00
Special Grand, 85%	3.25	2.80	2.80
Grand XX, 83%	3.00	2.70	2.70
Special Crack, 81%	2.70	2.65	2.65
Crack XX, 78%	2.65	2.60	2.60
Extra Extra, 73%	2.60	2.50	2.50
Best Extra, 68%	2.50	2.40	2.40

Canton filature, new style, 14/16	$1.80
Canton filature, new style, 20/22	1.65
Tussah filature, 8 cocoon	1.20

NATIONAL RAW SILK EXCHANGE

	Close Dec. 17	For the Week High	Low	Close Dec. 20	Net Chge.
December	2.42	2.42	2.36	2.45	+.03
January	2.39	2.42	2.35	2.40	+.01
February	2.39	2.42	2.36	2.39	.....
March	2.39	2.42	2.35	2.39	.....
April	2.37	2.42	2.35	2.39	+.02
May	2.38	2.42	2.35	2.36	—.02
June	2.37	2.42	2.35	2.36	—.01
July	2.35	2.42	2.34	2.36	+.01

Total contracts, 301. Total number of bales, 3,010.
Total approximate value, $7,076.50. Trading unit Crack XX 13-15, white 78%.

Domestic Rayon

VISCOSE PROCESS

Denier	Filament	First Qual.	Second Qual.
50	14	$2.15	$1.95
75	18	1.60	1.50
75	30	1.70	1.60
100	18	1.25	1.15
100	40	1.30	1.20
125	36–50	1.20	1.10
150	24–30	.95	.90
150	36–40	1.00	.95
150	60	1.15	1.10
150	75–90	1.20	1.15
170	24–27	.95	.90
170	60	1.15	1.10
200	30	.90	.85
200	35–40	.90	.85
200	75–80	1.10	1.05
300	44–60	.78	.75
450	54–60	.78	.75
600	72–96	.78	.75
900	100–144	.78	.75

NITRO-CELLULOSE PROCESS

Denier	First Qual.	Second Qual.	Denier	First Qual.	Second Qual.
75	$1.60	$1.50	150	$0.95	$0.90
100	1.25	1.15	175	.95	.90
125	1.20	1.10			

CUPRAMMONIUM PROCESS

Denier	Filament	Price	Denier	Filament	Price
15	24	$3.10	65	45	$2.00
25	24	2.85	80	60	1.70
30	24	2.60	100	75	1.40
40	30	2.40	120	90	1.30
52	30	2.20	150	112	1.25
			180	135	1.10

ACETATE PROCESS

Denier	Price	Denier	Price
45	$2.25 2.75	120	$1.90
55	2.05–2.55	140	1.30
65	2.45	150	1.40–1.85
75	1.80–2.70	200	1.55
100	1.65–2.45	300	1.50

Rayon Waste

Prices Nominal

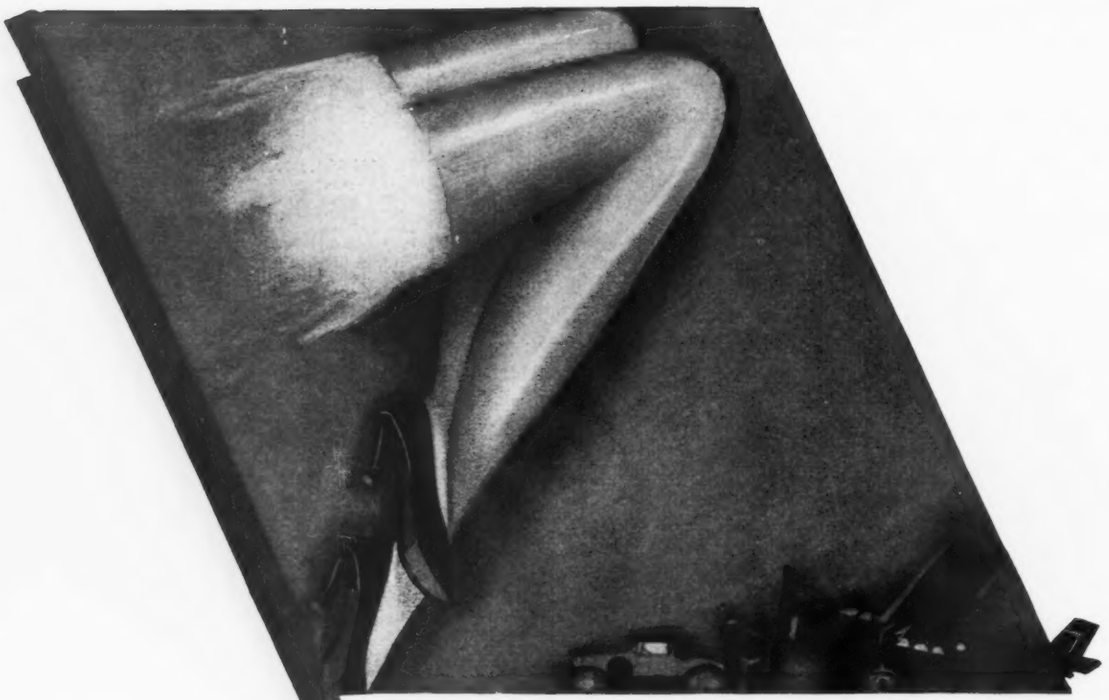
Open bleached waste	–$0.15
Open unbleached waste	.11– .13
Bleached thread waste (mfs.)	.11– .11½
Bleached thread waste (misc.)	.06– .08
Colored thread waste	...– .05
Colored clips	...– .05

CONVERTED RAYON WASTE

Bleached tops	$0.33–$0.36
Unbleached tops	.30– .33
Bleached noils	...– .12
Bleached garnetts	.14– .18
Unbleached garnetts	.15– .17
Colored garnetts	...– .13

Silk Waste

Kibizzo Kakai Grand XX	$0.54
Kibizzo Kakai Triple Extra	.48
Frison Grand Double	.52½
Pierced Cocoons	.53



SHAPELY beauty of a fitted stocking . . . sheer, *smooth* beauty without seams!

For the delight of the smart woman whose hose must be gossamer perfection without a seam to break the contour, yet snugly free from wrinkles, there is this stocking . . . made on the new Model "K" machine . . . with trim fitted ankle and narrowed "Gussetoe" *shaped in the knitting.*

ESTABLISHED 1805

SCOTT & WILLIAMS
INCORPORATED

366 Broadway
New York, N. Y.

The "Gussetoe" . . . the smooth, fitted foot . . . with no seam or ridge.

No seam to twist or mar the sheer.

Textile Calendar

Southern Textile Association, Dyers', Bleachers' and Finishers' Division, Annual Meeting, Hotel Charlotte, Charlotte, N. C., Jan. 10, 1931.

The Textile Forum, N.A.C.M., master mechanics, Boston (Mass.) Chamber of Commerce, Jan. 13, 1931.

Silk Association of America, Annual Dinner, New York, Jan. 15, 1931.

The Wool Institute, Annual Meeting, New York, latter part of January, 1931.

National Retail Dry Goods Association, 20th Annual Convention, Hotel Pennsylvania, New York, Feb. 2 to 6, 1931.

Boston Wool Trade Association, annual banquet, Copley-Plaza Hotel, Boston, Mass., Feb. 5, 1931.

The Textile Forum, N.A.C.M., warp preparation and weaving, Boston (Mass.) Chamber of Commerce, Feb. 10, 1931.

International Association of Garment Manufacturers, 24th Annual Convention and 18th Annual Textile and Machinery Exposition, Hotel Stevens, Chicago, March 3 to 5, 1931.

The Textile Forum, N.A.C.M., overseers of finishing, Boston (Mass.) Chamber of Commerce, March 10, 1931.

Knitting Arts Exhibition, Commercial Museum, Philadelphia, April 13 to 17, 1931.

Exposition of Chemical Industries, Grand Central Palace, New York, May 4 to 9, 1931.

American Cotton Manufacturers Association, Thirty-fifth Annual Convention, Hotel Traymore, Atlantic City, N. J., May 21 to 23, 1931.

New England Textile Stocks

Quotations at "Public Sale" are based on last sales at Boston Public Auctions and Boston Stock Exchange. Bid and Asked prices are latest quotations of dealers.

	Sale	Bid	Asked
Am. Mfg. Co.	52	52	56
Amoskeag	7	...	....
Arlington	18½	17	18
Associated Textile	36½	34	37
Bates	64	62	..
Berkshire, Associates, com	4	4½	6
Berkshire Associates, pfd	25	25	30
Bigelow-Sanford, com	25	...	...
Boott Mills	120½	...	108
Edwards	80¾	63	65
Esmond, pfd	102	96	99
Farr Alpaca	70½	60	64
Hamilton Woolen	40	30	35
Hill	9	9	12
Indian Orchard	20¼	20	25
Ludlow	117½	116	119
Merrimack, com	38	..	41
Nashua, com	10½	10	14
Nashua, pfd	66	57	..
Naumkeag	84	81	84
Newmarket	15	14	18
Otis	43	28	31
Pacific	16	...	...
Pepperell	85	80	83
Plymouth Cordage	66	66	69
York	8¼	6	8

N. Carolina Mill Stocks

(R. S. Dickson & Co., Charlotte, N. C.)

	Bid	Asked
Acme Spinning Co	60	75
American Yarn & Processing Co	60	71
Chadwick-Hoskins Co. (Par $25)	7	10
Chadwick-Hoskins Co., 8%, pfd	87	96
China Grove Cotton Mills	..	85
Climax Spinning Co	50	65
Clover Mills	..	23
Converse, D. E. Co	75	81
Crescent Spinning Co	46	55
Dixon Mills	90	98
Durham Hosiery, 6%, pfd	20	25
Eagle Yarn Mills	50	63
Efird Mfg. Co	60	80
Erwin Cotton Mills	..	114
Erwin Cotton Mills Co., 6%, pfd	80	95
Flint Mfg. Co	80	90
Flint Mfg. Co., 7%, pfd	90	92
Globe Yarn Mills (N. C.)	..	15
Gray Mfg. Co	..	75
Hanes, P. H. Knitting Co	7	10
Hanes, P. H. Knitting Co., 7%, pfd	90	96
Henrietta Mills, 7%, pfd	40	55
Imperial Yarn Mills	..	60
Linford Mills	60	71
Locke Cotton Mills Co	40	55
Majestic Mfg. Co	100	120
Mansfield Mills	..	60
Mooresville Cotton Mills	..	6
Mooresville Cotton Mills 7%, prior	..	74
Myers Mills	..	55
Myrtle Mills	..	51
National Yarn Mill	50	60
Perfection Spinning Co	50	66
Ranlo Mfg. Co	..	107
Roanoke Mills	..	60
Rosemary Mfg. Co., pfd., 7½%	93	100
Rowan Cotton Mills Co	60	74
Seminole Cotton Mills Co	..	70
Sterling Spinning Co	50	65
Stowe Spinning Co	50	61
Victory Yarn Mills Co	..	45
Ware Shoals Mfg. Co	115	125
Ware Shoals Mfg. Co., 7%, pfd	90	98
Winget Yarn Mills Co	33	50
Wiscassett Mills Co	155	180

Textiles on N. Y. Exchanges

The following shows the movements of the leading textile stocks listed on the New York Stock Exchange and Curb for the week ended Dec. 23:

	High	Low	Last Sale	Net Chge.
Adams Millis	22¾	21¼	21¾	— ¼
American Woolen	6¼	5⅞	6¼	— ⅛
American Woolen, pfd	19¼	17½	18	+1
*Assoc. Rayon, pfd	32½	31½	31½	— ⅛
Belding-Hemingway	2½	2⅜	2½	— ⅛
*Blumenthal	12	10½	10½	—1½
Botany Mills, A	2	1⅞	1¼	— ⅛
Cannon Mills	18¼	17	17	—1⅛
Century Ribbon	3	2½	2½	....
Collins & Aikman	14	12½	12½	— ⅛
Consolidated Textile	⅛	⅛	⅛	— ⅛
Duplan Silk	14½	14	14	....
Durham Hosiery, pfd	23	23	23	....
*Fabrics Finishing	¼	¼	¼	+ ⅛
Gotham Hosiery	5¼	4¼	4½	— ⅛
Industrial Rayon	54	51	51	+1
Kayser, Julius	16	14⅛	15	+ ⅛
Kendall, pfd	30	25	25	—4½
Mallinson	2½	2⅛	2¼	+ ⅛
Mohawk Carpet	10⅛	9½	10	....
Munsingwear	28½	28½	28½	....
Pacific Mills	16	15	16	+1
*Pepperell	80¼	79	80¼	+ ¼
Phoenix Hosiery	8	7	7	....
*Powdrell & Alexander	25	21¼	25	— ⅛
*Propper-McCallum	4	3½	3½	— ⅛
Real Silk Hosiery	28⅞	25	25½	+ ⅛
*Tubize Chat B	3⅜	3⅛	3⅜	+ ⅛
United Piece Dye Works	23¼	22	22¼	—1⅛
Van Raalte	7⅛	7	7	....

*Listed on Curb.

Wool Marketing Corp. Announces Plan to Undersell Foreign Wools

THE National Wool Marketing Corp. on Dec. 21 announced as a selling policy a plan which will make "wool raised by United States wool growers of better value to the purchaser than similar foreign wool." The statement is an enigma to some wool men and it is not fully clear from the statement just what purpose the executives of the marketing corporation have in mind. On the one hand willingness to meet foreign competition suggests abandonment of a price-pegging policy, while on the other hand the purpose of the plan is said to be to instill confidence in wool growing circles. Roger Gillis of Del Rio, Texas, president of the Federal Farm Board Cooperative, says that no dumping of wools on the market is to be practiced.

Directors of the corporation held a meeting in Washington Nov. 17 and the recent statement is said to be an extension of the policy set upon at that time. In the minds of Boston wool men the statement boils down to belief that the marketing corporation will proceed with intelligent distribution of its wool stocks without the barrier previously fixed by the policy of not underselling similar foreign wools. This situation makes the domestic market more flexible in meeting the turns of wool values in world markets and of course it does not in any way remove the advantage which the domestic grower has over his foreign competitor through the wool tariff.

The statement reads as follows: "The cooperative wool will be sold not only at values corresponding to importing parity of similar foreign wool, but also at prices which definitely make wool raised by the United States wool growers better value to the purchaser than similar foreign wool. Regardless of the cost of foreign wool, duty paid here, whether above or below today's level, these values will be met by the wool held by the National Wool Marketing Corp.; not only met, but will be priced to make this cooperative wool of better value than the foreign wool to the American consumer."

It is believed that this statement contains the answer to the many rumors and inquiries regarding the disposition of wool stocks in the hands of the wool marketing corporation. The element of optimism in this situation is that these wools will no longer be held over the market as a surplus. It is understood that the corporation hopes to dispose of much of its supply before the late spring and early summer brings the new clip into the market.

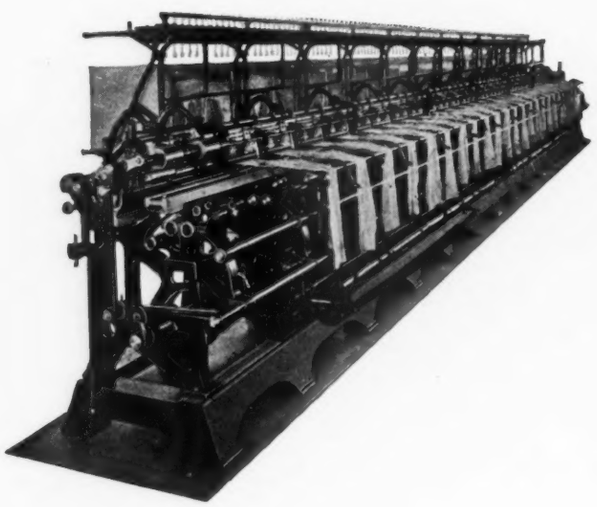
To Seek Textiles Uses for Sugar at Mellon Institute

Dr. Edward R. Weidlein, director, Mellon Institute of Industrial Research, has announced that the institution has lately begun a broad investigation into possible industrial uses for raw and refined sugar. The research will be carried on by a Multiple Industrial Fellowship that will be sustained by The Sugar Institute, Inc., of New York, an organization that represents the cane sugar refiners of the United States.

The program of investigation will be supervised by Dr. George D. Beal, Assistant Director of Mellon Institute, and by Dr. Gerald J. Cox, Senior Industrial Fellow.

According to Dr. Weidlein, various studies made by private research workers have already indicated results of industrial promise; these findings will be carefully studied in the laboratories of Mellon Institute. Most of these proposals relate to applications for sugar in such technologic practices as wood preservation, textile finishing, and the manufacture of adhesives.

As easy as switching the light on or off



The operation of the slow-motion mechanism in the Wildman Full-Fashioned Hosiery Machine is simplicity itself. A child could do it. There's no muscle required. It's as easy as switching on or off the light.

Write for further information.

WILDMAN MFG. CO.

Full-Fashioned Division—Norristown, Pa.

WILDMAN
THE WORLD'S STANDARD

WILDMAN
FULL-FASHIONED HOSIERY MACHINE

F.F. Hosiery Manufacturers, Inc. to Produce on Order Only

MEMBERS of the Full-Fashioned Hosiery Manufacturers of America, Inc., by resolution unanimously adopted at a meeting in Philadelphia last week, decided to curtail their production and restrict the operation of their plants to the production of actual orders only.

This action, announced by Joseph Haines, Jr., of the Haines Hosiery Mills, Inc., Philadelphia, executive secretary of the association, followed a thorough discussion of conditions confronting the hosiery industry.

The resolution adopted by the organization, which includes in its membership a number of the largest and best known manufacturers of full-fashioned hosiery in the United States, reads as follows:

"The members of the Full Fashioned Hosiery Manufacturers of America, Inc., approve the general movement within the entire industry to curtail production, and agree individually that they will restrict the operation of their plants to the production of actual orders only."

Discussion at the meeting disclosed that there was a fairly uniform curtailment of production throughout the industry at this time. It was the opinion of manufacturers present that, generally speaking, all manufacturers have operated without profit this year, and that certain manufacturers are selling merchandise substantially below cost of production. It was unanimously agreed that the best corrective measure for this condition was sufficient curtailment of output to eliminate the sale of distress merchandise.

Women's Fashion Census Shows Preponderance of Black Coats and Beige Hosiery

FASHIONS worn by more than 750,000 women were counted and analyzed in the first Nation-Wide Fashion Census ever held, just completed by leading newspapers and stores in 50 cities, under the direction of Amos Parrish, head of Amos Parrish & Co., fashion analysts and counselors in merchandising, advertising and sales promotion to retail stores.

In a summary and analysis of the results of the Fashion Census, Amos Parrish says: "There's very little geography to Fashion. All over the United States there's a truly democratic landslide in favor of certain fashion trends, for certain colors and types of coats and dresses and accessories. For longer skirts, for example, and more feminine fashions than even last year. American women today like the same fashions, choose the same fashions, wear the same types of fashions all over the United States.

"Skirts are no longer short. Nor are they long. Fashionable skirts for daytime wear are a medium, comfortable, practical length. Their hems touch the middle of the roundest part of the leg—the spot called the middle calf.

"Black is the favorite fashion color. But it is black with some relief: black coats with light fur; black dresses with contrasting trim; a black costume with beige stockings.

"Black coats make up almost half the winter coats worn today. And over one-third of these black coats are trimmed with long-haired light fur.

"The favorite coat silhouette is slightly fitted and slightly flared. Next, is the coat with the wide wrap-around and buckled belt. Third, the coat with medium wrap-around with a belt that ties.

"Three-fourths of all women counted wore silk dresses. Most of these new dresses are belted—in fact, well over half of them. The bolero dress is the next most important in fashion. The tunic is third. And the peplum fourth.

"More than one-half the women match their hats to their coats. And black, as in coats and dresses, is their first choice in hats.

"More of the women counted in the Fashion Census wear medium beige or tan stockings than any other one color. More than twice as many, in fact, as wear brown. Almost three times as many as wear the third choice—gunmetal. Almost four times as many as wear medium gray.

The next Amos Parrish Fashion Merchandising Clinic for store owners and executives, in advance of the spring buying and selling season, will be held in New York, Jan. 12, 13, 14, 15. The program includes a summary and forecast of ready-to-wear and accessory fashions, and programs of merchandising, advertising, sales promotion and fashion training for the spring season.

October Underwear Sales Show Slight Increase

Knit underwear sales during October were ahead of September but decidedly behind October last year, according to figures just made public by the Department of Commerce. These figures are based on surveys conducted in various types of mills. A survey in 142 identical establishments, all classes combined, showed a total of unfilled and new orders in October of 2,555,273 doz. against 2,413,936 in September. The same survey indicated that October shipments were ahead, the figures being: October shipments, 1,315,172 against 1,261,044 in September. In a survey of 85 identical cotton establishments, the October business totaled 1,958,832 against 1,885,272 in September, and the October shipments totaled 876,678 against 896,513 in September.

The effect of the business depression was vividly illustrated in the comparative summary of October, 1930, with October, 1929; this year, October business fell to 2,360,233 as against 3,014,631 in October last year, while the shipments position is considerably more favorable, the figures being: shipments in October 1930, 1,160,918 against 1,434,292 in October 1929.

Starr Praises Silk Drive As "Non-Competitive"

Characterizing the launching of a silk campaign in the United States by the Raw Silk Association of Japan as "in no way competitive with the Durene cotton campaign now about to commence its second year," E. L. Starr, director-treasurer of The Durene Association of America, Wednesday said he believed the silk campaign would be a "distinct contribution in increasing the general textile consciousness of the American people."

The Durene director added:

"Both Durene cotton and silk have innumerable new uses to enter upon, and yet these virgin territories are sufficiently distinct to advise logically the greatest success for non-competitive rather than 'exchanged customers' promotional efforts. None of the present energetic textile campaigns can profit to the maximum by attacking the others in the same field. Every worthy critic and student of economic affairs in the world today agrees that industry vs. industry customer-swapping works without profit to anyone in the end."

Viscose Quality Plan to Include Sombray Yarn

Announcement is made by the Viscose Co. that its quality-control plan has been extended to include Sombray, the new rayon yarn recently introduced by that firm. Sombray, a 144 denier, 36 filament yarn, triple-subdued, will be sold only to knitters who have signed contract-agreement to make Sombray cloth of or above standard specifications which have been set as minimum; this rule becomes effective early in January. Knitters also agree to sell their manufactured Sombray cloth only to those manufacturers who have received the approval of the Viscose Co.

The specifications for Sombray cloth follow:

FABRIC CONSTRUCTION

Count of Wales per Inch (Basket Side)	20
Count of Courses per Inch (Basket Side)	28
Finished Width	46 inches
Number of Yards per lb.	3.75

CONSUMER WEARING QUALITIES

Bursting Strength (Mullen)—Dry	80 lbs.
Bursting Strength (Mullen)—Wet	45 lbs.

COLOR FASTNESS

Laundering	85% Fast
Perspiration	Should not bleed nor stain

SHRINKAGE IN LAUNDERING

Wales	Not over 5%
Courses	Not over 2%

Let a Brinton Knitting Machine Engineer

Do Your Worrying for You

THE quickest and most economical way to get into production on new merchandise, is to send for the Brinton representative. Brinton makes circular Knitting machines of all kinds, for every purpose. Brinton engineers will help you select the precise Knitting machine you need—or will make it for you if necessary.

If one of the many types of Brinton Rib Knitting Machines or Open-top Jersey Knitting Machines; in all diameters, doesn't exactly suit your purpose—turn the Brinton staff of engineers, and the Brinton experimental department loose on your problem.

You'll get action—results—the machine you want.

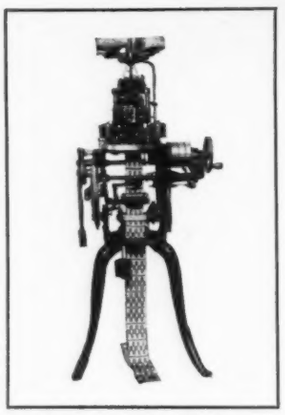
Ribbers—of every type

Jersey Machines—Plain and Fancy stitches

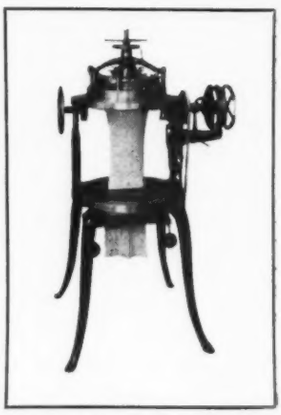
Rib body machines for underwear and bathing suits

Sweater machines—Rib and Jersey Types.

Special Knitting Machines from $\frac{1}{4}''$ to 36″.



Trick Wheel Ribber



Plain Rib Body Machine

H. BRINTON COMPANY
3700 Kensington Avenue
Philadelphia

New York Office
366 Broadway

BRINTON

CIRCULAR KNITTING MACHINES

of EVERY Kind for EVERY Purpose

Proper Merchandising Now Essential

Cotton textile merchants were advised to pay more attention to merchandising, which includes setting a price to allow a reasonable profit, by Sidney H. Scheuer, of Louis Lowinson & Co., at the annual dinner of Association of Cotton Textile Merchants of New York, at the Hotel Madison, New York, Dec. 18.

"Throughout the history of merchandising practice the industry has followed the course of least resistance and has depended upon rule of thumb procedure," Mr. Scheuer told the members. Manufacturers have felt that their products should bring a profit under any and all conditions, he said, whether overproduced or not and their idea of a milk and honey world would be that of running all their machinery full time on staple constructions.

This is no longer possible, he said, and styling, planning and proper distribution are factors that have come to be essential before a manufacturer can expect to operate profitably under the new régime.

To begin at the proper place, Mr. Scheuer suggested that textile schools include in their curriculum a course in merchandising. "This is the part of the business that can never be overemphasized," he said. "It is the end where all effort must ultimately arrive."

Mill Practice Suggests New Merchandising Method

The loose rope of cotton from the cards in cotton manufacturing which coils into cans to be carried to the drawing frames suggested to a research man the answer to a problem in packaging absorbent cotton and a new package of this staple recently has been introduced to the public by Bauer & Black division of The Kendall Co. The conventional absorbent cotton packagee has been the blanket type roll, with paper interleaving. Many ordinary consumer uses require only a small tuft which has meant unrolling the blanket, pulling off the amount needed and rolling it up again.

The idea of a box with apertures from which cotton could be plucked as needed was the start of research on a new package. The problem was how to prepare the cotton so it would feed continuously. The answer came from an old cotton-textile process when a Bauer & Black research man saw possibilities in the cotton coming from the cards at one of the Kendall southern mills. The new package, called "The Cotton Picker," adapts the rope principle to absorbent cotton which is coiled into a cylindrical container. Specially arranged apertures, smaller than the diameter of the rope, maintain the strength, allowing the absorbent to pass through smoothly. The rope expands as it comes out at the top. The cotton is picked off as needed and the rest stays clean.

The new item, according to Harry L. Wells, general manager, gave Bauer & Black salesmen a new "spearpoint" in a period when the trade generally has been slow to buy; has meant added employment in the department producing the "Cotton Picker" and has evoked instant buying response from the public.

Full-Fashioned Hosiery Group Favors Kelly Bill

Manufacturers should have the right to fix retail prices, asserts John W. Edelman, research Director of the American Federation of Full-Fashioned Hosiery Workers, of Philadelphia, in a letter to C. W. Doten, of the Massachusetts Institute of Technology, Cambridge, Mass. The letter is in answer to a questionnaire being sent out by Mr. Doten to delegates to the recent convention of the American Federation of Labor in Boston. William Smith, represented the Full-Fashioned Hosiery Workers at the Boston meeting, but Mr. Edelman answered the questionnaire on his behalf. The questionnaire asked an expression of views on the Kelly Resale Bill, now on the House Calendar for consideration; the bill would allow manufacturers to dictate retail prices of their branded lines. Mr. Edelman wrote: "the advantages of such a law would far outweigh its disadvantages, and we approve its general purpose."

Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended Dec. 20, based upon data compiled by the Market News Service of the Bureau of Agricultural Economics, Department of Agriculture, follow:

	Week Ended Dec. 20	Total to Date 1930	Total to Date 1929
Domestic	1,927,000	345,172,000	291,628,000
Foreign	1,217,000	60,398,000	94,274,000
Total	3,144,000	405,570,000	385,902,000
IMPORTS AT PRINCIPAL PORTS			
Boston	1,217,000	60,398,000	94,274,000
Philadelphia	506,000	42,796,000	88,466,000
New York	1,060,000	44,467,000	72,904,000
Total	2,783,000	147,661,000	255,644,000

Leaves Minot Hooper & Co.

John E. Rousmaniere will retire from Minot, Hooper & Co., New York, Dec. 31, 1930, according to an announcement. He will retain his interest in Rousmaniere Williams Corp., and will devote his time to other activities. Among these are the Cabot Mfg. Co., Brunswick, Me., and the Farwell Bleachery, Lawrence, Mass., Mr. Rousmaniere being president of these firms.

N. C. Hosiery Traffic Managers' Meeting Postponed

Difficult traveling on the highways because of an early snowfall prevented the scheduled meeting of the North Carolina Hosiery Mills' Traffic Managers Association at Greensboro, N. C. The meeting has been deferred, with Jan. 14 set as the tentative date and the Sheraton Hotel, Highpoint, N. C., as the place of meeting.

Interesting Program for D.B.F. Division of S.T.A.

An interesting program is being arranged for the Dyers', Bleachers' and Finishers' Division of the Southern Textile Association, which is to hold its annual meeting at the Hotel Charlotte, Charlotte, N. C., Jan. 10. Immediately following the luncheon which opens the program, four technical addresses will be delivered, as follows:

"Water Purification for Textile Purposes," by S. A. Alling, sales manager, Hungerford & Terry, Inc.

"Colors Other Than Those for Dyeing and Printing," by Charles P. Walker, of A. Klipstein & Co.

"The Finishing of Fabrics," by Chester W. Eddy, of the Brandon Corp., Travelers Rest, S. C.

"The Dyeing of Mixed Fiber Fabrics," by Dr. E. W. Pierce, of the Ciba Co.

Paul F. Haddock, chairman of the division, will preside at the dinner, featured by several musical and entertainment numbers, which will conclude the meeting.

Textile Integrity Guild Expands

At a meeting of the Council of Textile Executives, held at the Harmonie Club, Dec. 23, which is the group that sponsored and launched the Textile Integrity Guild at a Hotel Commodore luncheon several weeks ago, the following nine men were elected to the Executive Committee: Paul Hyde Bonner, Stehli Silks Corp.; Beveridge C. Dunlop, American Glanzstoff Corp.; Flint Garrison, Wholesale Dry Goods Institute; E. Irving Hanson, H. R. Mallinson & Co., Inc.; Thomas B. Hill, C. K. Eagle & Co., Inc.; Floyd W. Jefferson, Iselin-Jefferson Co.; John P. Maguire, Textile Banking Co.; Charles Pinnell, Fred Butterfield Co.; A. D. Whiteside, National Credit Office.

It was also stated that 125 of the best known firms in the industry,—representing a cross-section of the silk, cotton, wool, rayon, and allied industries,—have decided to support the purposes of the Textile Integrity Guild and, as individuals, have signed the Guild's written form of approval of its purposes.

Silk Trade Honors S. Tajima At Farewell Dinner

Leaders in the American silk industry gathered at the Hotel Astor, New York, Wednesday evening, at a testimonial and farewell dinner to Shigeji Tajima, head of the Mitsui interests in the United States. Mr. Tajima will sail for Japan at the end of the month to assume his new post as a director of the home organization of Mitsui & Co. in Tokio. He has been actively identified with the silk industry in this country for twenty-five years.

Thomas B. Hill, president of the Silk Association of America, presented the guest of honor with a silver cup.

Evidence of Cotton Goods Curtailment

Analysis by the Association of Cotton Textile Merchants of New York, of figures published by the Census Bureau of the Department of Commerce, reveals a continuation of the control of production by cotton manufacturers, and further, that the average reduction reported for previous months has been held during November. While figures on staple cotton cloths recently published by this Association indicated November production slightly above October, these Census Bureau figures covering the industry as a whole, show that actual production in November was 6½% less than in October.

The analysis show that the aggregate running time of American cotton mills during November totaled 5,831,527,747 spindle hours as compared with 7,811,606,790 during November, 1929, a reduction of 1,980,079,043 spindle hours, or more than 25%.

The aggregate running time for the 11 months ending November 30, 1930, was 70,786,739,513 spindle hours as compared with 93,108,184,375 for the previous similar period, or a reduction of 24%.

Translated into terms of cotton cloth, the cotton textile industry during November produced approximately 173,454,924 yd. of cloth less than in November, 1929, and during the eleven months' period of 1930, about 1,955,358,570 yd. less than during the same period in 1929.

Rayon Imports for November

The Department of Commerce, Bureau of Foreign and Domestic Commerce, Washington, D. C., announces the import of rayon yarns, threads, waste, staple fiber and filaments in the United States during November, 1930, as follows:

	Pounds	Dollars
Yarns and Threads		
France	11,828	16,440
Germany	80,028	62,244
Italy	40,480	28,776
Netherlands	14,990	8,478
Switzerland	44	38
United Kingdom	5,045	6,460
	152,415	122,436
Spun Yarns		
Germany	2,866	1,548
United Kingdom	9,260	5,000
	12,126	6,548
Filaments		
United Kingdom	30,200	34,033
Switzerland	13,429	13,456
Germany	7,901	7,001
	51,530	54,490
Waste		
Germany	17,207	1,734
France	27	6
	17,234	1,740
Cut or Staple Fiber		
Germany	102,273	35,358

August Merz Re-elected President of Synthetic Organic Chemical Men

The Ninth Annual Meeting of the Synthetic Organic Chemical Manufacturers Association of the U. S. was held Dec. 18, at the Hotel Commodore, New York, with an attendance of about 60.

Immediately following the luncheon which opened the session, August Merz, president of the association, addressed the members on his recent trip abroad and Dr. Chas. H. Herty, an honorary member and past president of the organization, and C. C. Concannon, chief of the Chemical Division, Bureau of Foreign & Domestic Commerce, spoke a few words of greeting.

After the luncheon, the members convened in executive session to take up the regular order of business and to elect officers for the ensuing year. The new officers are as follows: president, August Merz, of Calco Chemical Co., re-elected; first vice-president, Dr. E. H. Killheffer, of Newport Chemical Works; second vice-president, S. W. Wilder, of Merrimac Chemical Co.; the four additional board members being Ralph E. Dorland, re-elected treasurer, and connected with the Dow Chemical Co.; E. G. Robinson, of E. I. duPont de Nemours & Co.; A. L. Van Ameringen, of Van Ameringen-Haebler, Inc.; and E. A. Barnett, of John Campbell & Co. C. A. Mace was reappointed secretary of the association.

Mallinson Factored by Commercial Factors

An arrangement for the factoring of H. R. Mallinson & Co., Inc., silk manufacturers, by Commercial Factors Corp., has been announced by Hiram R. Mallinson, president of the H. R. Mallinson & Co., Inc. He stated: "In order that we may be relieved of the routine incident to our large sales volume and to the handling of the many customers whom we are now serving, we have deemed it desirable to avail ourselves of the services of Commercial Factors Corp., who will hereafter factor our sales."

Commercial Factors Corp. is a consolidation of three of the oldest factoring organizations: Fred'k Vietor & Achelis, Inc., Peierls, Buhler & Co., Inc., and Schefer, Schramm & Vogel.

Wool Top Futures Market Plans Make Progress

Preparatory to announcing their opening date the Wool Associates of the New York Cotton Exchange have issued a booklet on the "Wool Top Futures Market" which summarizes the objects of the market and describes how its facilities may be used. The organization is making progress and it is intimated that before long the date on which trading will be started will be announced.

Agricultural Exhibit in Egypt in February, 1931

The fourteenth Agricultural and Industrial Exhibition, which is being organized by the Royal Agricultural Society of Egypt to take place in February, 1931, under the patronage of King Fouad, is receiving support from the Egyptian Government. The last previous exhibition was held in 1926.

Business News

R. & H. Gives Safety Show for Employes

L. M. White, assistant superintendent of the R. & H. Chemical Co., Niagara Falls, N. Y., was the chief speaker at the firm's Safety Show for employes held in the Capitol Theatre, Dec. 16-18. A special safety program was offered including motion pictures, and silver cups and certificates were awarded to winning departments. Comedies, news reels and other short pictures were interposed between the safety movies. Further emphasis on safety was given by Doc Volkman, in charge of First Aid at the plant, who spoke briefly on the application of first aid in usual-run accidents. This was followed by a practical demonstration by Mr. Volkman, assistants and members of one of the R. & H. first aid teams. The event drew capacity crowds.

C. E. Allen Named Westinghouse Vice-President

Claxton E. Allen, formerly manager of the southwestern district of the Westinghouse Electric & Mfg. Co., was elected a commercial vice-president of that company at a recent meeting of its board of directors.

In announcing the election F. A. Merrick, president, said: "Mr. Allen's duties would extend over the domestic appliance division and other divisions serving the household market, such as refrigeration, radio, etc., and also jobbing outlets. Mr. Allen, who has been associated with the Westinghouse Co. since 1909 is a native of Virginia."

W. S. Robertson President of General Water Treatment Corp.

Organization of the General Water Treatment Corp., the merger of the Permutit Co. and the Ward-Love Pump Corp. reported in these columns Dec. 13, has been effected. The directors of the company are Francis N. Bard, Vincent Bendix, Harry M. Durning, William M. Flook, W. Spencer Robertson and Kenneth B. Schley. The officers are Francis N. Bard, chairman of the board; W. Spencer Robertson, president; Harry M. Durning, vice-president; H. W. Pratt, secretary and treasurer.

Morse Chain Co. Holds Annual Dinner

More than 200 executives, superintendents and office men and foremen attended the annual dinner of the Morse Chain Co., manufacturers of silent chain drives and other textile machinery equipment, held recently in Ithaca, N. Y. Benjamin Nichols was toastmaster. Frank L. Morse was the chief speaker and he reviewed the growth of American industry during recent years, emphasizing that the coming spring promises a business revival.

Hercules Creates Foreign Relations Dept.

A new foreign relations department has been instituted by the Hercules Powder Co., Wilmington, Del., president Russell H. Dunham, announces. In charge of the new department will be Peter W. Meyeringh, until recently manager of the Hercules European connection, the N. V. Hercules Powder Co., Rotterdam, Holland.

New Books

COTTON YEAR BOOK OF NEW YORK COTTON EXCHANGE; compiled by Service Bureau, under A. H. Garside.

A comprehensive compilation of world statistics of cotton, and of other economic data bearing on the movement of cotton prices, is contained in this book. It contains a much broader range of statistical data than the two previous year books of the exchange.

The new year book is unique among cotton statistical publications from the standpoint that all of the figures which it contains on production, stocks, movement, and consumption of American and foreign cottons correlate with each other. All of the figures are exclusive of linters, on the principle that linters are a separate commodity and hence should not be included in cotton statistics. The figures in all tables on foreign cotton are in equivalent bales of uniform weight to avoid the confusion and misinterpretations which arise from the use of statistics in terms of the widely varying actual bales of foreign growths. The supply and distribution statistics account completely, as in a corporation balance sheet, for all cotton produced and consumed in all parts of the world.

JAPAN'S ECONOMIC PROBLEM. By John E. Orchard. New York: Whittlesey House; Trade Division of McGraw-Hill Book Co. $5.00.

In any consideration of Japan's industrial development, silk comes inevitably to mind, and Prof. Orchard takes due cognizance of silk's foremost position in the Japanese picture. However, he points out that Japan is rapidly coming to the front, as a manufacturing nation also; domestic consumption of its own silk is increasing so rapidly as to present a potential problem to the foreign markets. This thoughtful and comprehensive study is most valuable at present, as bringing the reader to a readjustment of his understanding of Japan's economic situation. The growth of cotton spinning, the position of cotton weaving, the organization of the Japanese cloth industry, the textile industrial development as a whole and apart from the raw silk production—these are only a few of the very pertinent phases considered by Prof. Hall.

ORNAMENTATION AND TEXTILE DESIGN. By Alfred F. Barker, M.Sc., F.T.I. New York: Frederick A. Stokes Co. $5.

This richly illustrated book by Professor Barker of the textile industries department of the University of Leeds, England, reviews the development of textile design from the primitive stages to the present day, and analyzes the technique of pattern. Nature forms are considered in detail and many suggestions are offered for the creation of new effects. The 95 plates shown illustrate trends and outstanding achievements in fabric designing, and are explained and interpreted in seven chapters of text. The work is stimulating and has a story of value to modern designers.

THE MENACE OF OVERPRODUCTION. Edited by Scoville Hamlin. New York: John Wiley & Sons, Inc. $2.75.

The cause, extent and cure of the vital question of overproduction are considered in eighteen different phases of industry in this symposium. Perhaps nowhere is overproduction a more potent problem than in the textile trades, and this division is given ample representation in Mr. Hamlin's book. The question of surplus in our own field is considered by: Thomas B. Hill, president of the Silk Association, for silk; A. D. Whiteside, president of the Wool Institute, for wool; John E. Bassill, vice-president, Tubize Chatillon Corp. for rayon, and Henry P. Kendall, president of the Kendall Co., for cotton. In each case, the question is thoughtfully studied in all its aspects and in each case the contributor reaches the same fundamental conclusion —namely, that the lines of supply and demand should be brought into more direct parallel. The leaders in other trades contribute thoughtful reviews and the whole is analyzed by Mr. Hamlin in a concluding chapter in which he offers various constructive suggestions on the problem.

THE HISTORY OF THE SILK INDUSTRY IN THE UNITED STATES, by Shichiro Matsui. New York: Howes Publishing Co.

A comprehensive massing of statistics and a thoughtful interpretation of tendencies both in production and consumption, mark this history by Prof. Matsui of Doshisha University, Kyoto, Japan. In his preface, the author gives credit for encouragement and support to Prof. John R. Commons, of the University of Wisconsin, who also contributes an introductory note to the volume. The book opens with a review of the silk industries in foreign countries, and then gives a broad picture of silk manufacturing development in the United States, touching on machinery improvements, tariff, markets, mill personnel and raw silk price fluctuations. His Far Eastern background is supplemented by American training which is a particular advantage in that it enables him to study the cocoon industry in its relation to the consuming market.

"THE PROBLEM OF TEXTILE ADVERTISING." An address delivered by Allyn B. McIntire, vice-president and director of sales development Pepperell Mfg. Co., Boston, before the National Association of Cotton Manufacturers, Boston, May 1, 1930. Published by Calvin Stanford Advertising Agency, Atlanta, Ga.

Mr. McIntire's address, which received considerable attention at the time it was presented, now is available in book form. It is a detached and concise analysis of current textile advertising problems with numerous pertinent suggestions for the solution thereof.

BULLETIN OF THE UNION DES SYNDICATS PATRONAUX DES INDUSTRIES TEXTILES DE FRANCE. March-April, 1930; Paris.

This bulletin describes current legislative and other problems now confronting the French textile industry, with particular regard to employe insurance, employe relations generally, and tariff matters.

REPORT OF THE BRITISH ECONOMIC ADVISORY COUNCIL'S COMMITTEE ON THE COTTON INDUSTRY. Printed and published at H. M. Stationery Office, London.

This report which was presented to Parliament last month, now is available in bound form. It covers the entire scope of the cotton committee's study, concluding with the division of recommendations.

TECHNO-DIRECTORY. German, English, Italian. Hubert Hermanns, Berlin, Lichterfelde-West, Dahlemerstr. 64a, Germany. Price 15 shillings.

A pocket dictionary of technical terms in three languages, as used in metallurgical, foundry, factory, and workshop practice. Includes most recent expressions evolved.

Useful Catalogs

Worm Gear Speed Reducers. Gears and Forgings, Inc., Cleveland, O. Advantages of worm gear speed reducers, and the interesting features in this company's line, as regards design and manufacture, are presented in a 47-page illustrated booklet. Another booklet issued by G & F considers services and advantages of planetery speed reducers.

Centrifugal Pumps. Chicago Pump Co., Chicago. A reference bulletin, covering vertical pumps of the non-clogging type, typical layouts, installations, horizontal pumps, gas engine pumps, and bilge pumps for drainage. Another bulletin issued by this company shows several popular type pumps and indicates their application, while a third cites the uses and characteristics of "Condo-Vac" vacuum pumps.

Hypochlorite. The Mathieson Alkali Works, Inc., New York City. This 24-page booklet describes calcium hypochlorite, marketed under the trade name of H T H, explains its properties and chlorine content and points out wide range of industrial uses.

V Belt Drives. The Medart Co., St. Louis, Mo. Explanation of functions of V belt drive, with price list and specifications of Medart line.

Rayon Warp Sizing. Van Vlaanderen Machine Co., Paterson, N. J. Details of improved slasher presented in reprint of magazine article by J. J. Sussmuth, of this firm. This reprint is available to interested companies.

Cleaning Compound. Quigley Co., Inc., New York City. Description of cleansing properties and uses of "Annite," with particular reference to textile uses.

Material Handling Equipment. Truscon Steel Co., Pressed Steel Division, Cleveland, O. Folder describes firm's line of steel boxes, skid platforms, factory trucks, etc.

Unit Gas Heaters. Buffalo Forge Co. Buffalo, N. Y. Advantages of gas heaters in certain types of plants, over electric heaters, are described in catalog of company which manufacturers both types.

Glue Preservation. Dow Chemical Co., Midland, Mich. Use of orthophenylphenate for preservation of glue, with particular regard to the employment of glue in industrial structures.

Alemite Lubrication. Alemite Corp., Chicago. Various aspects of alemite industrial lubrication, and its textile uses, are discussed in the current issue of "Alemite Industrial Lubrication."

General Electric Co. Bulletins. General Electric Co., Schenectady, N. Y. New group of bulletins issued by this company cover thermostat for heating units, master switches, geared-type limit switches, track-type switches, induction motor-generator sets, capacitor motors, resistors; copper brazing and copper-brazing furnaces is the theme of a 20-page well illustrated folder; centrifugal compessors is the topic of another illustrated folder.

Flexible Couplings. Westinghouse Electric & Mfg. Co., Pittsburgh, Pa. Features and uses of these couplings described in folder which also includes specifications. Speed reducers are subject of a Westinghouse booklet.

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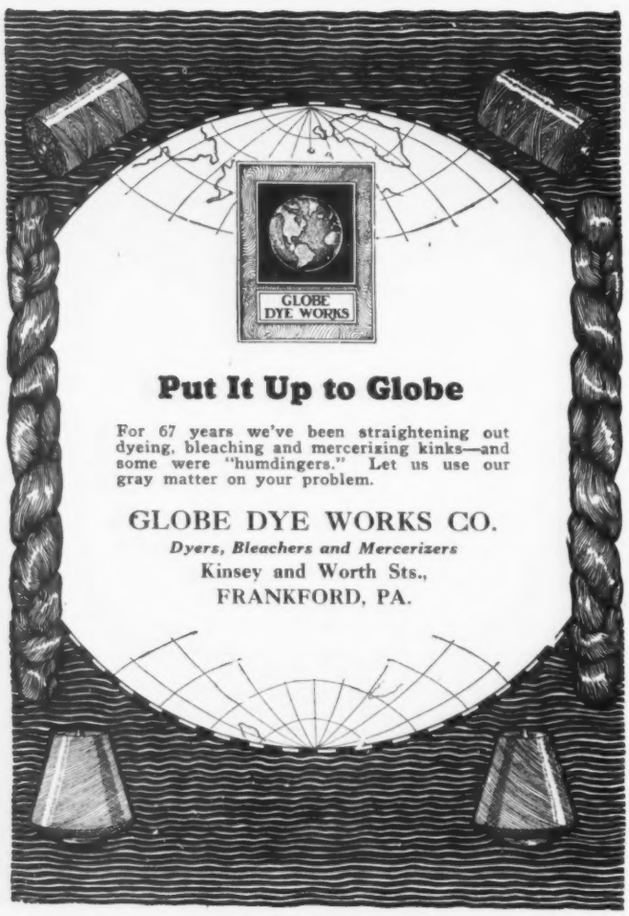

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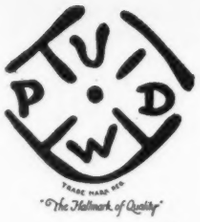

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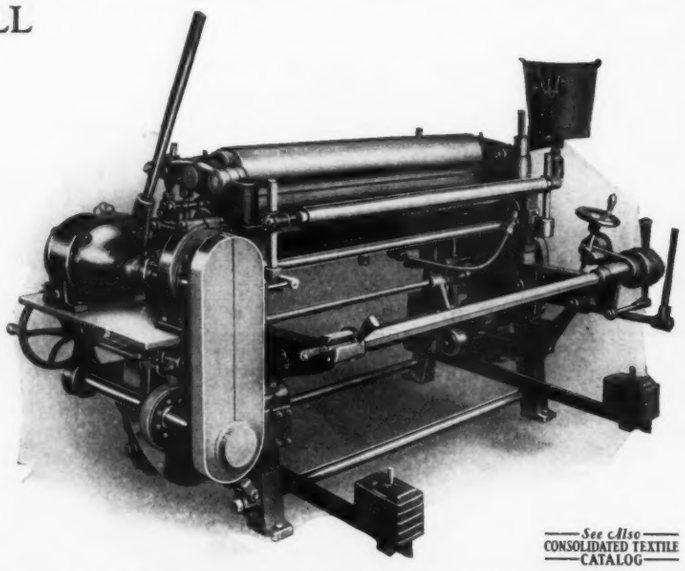

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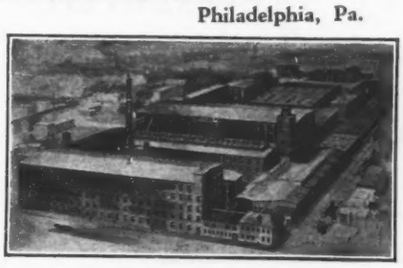

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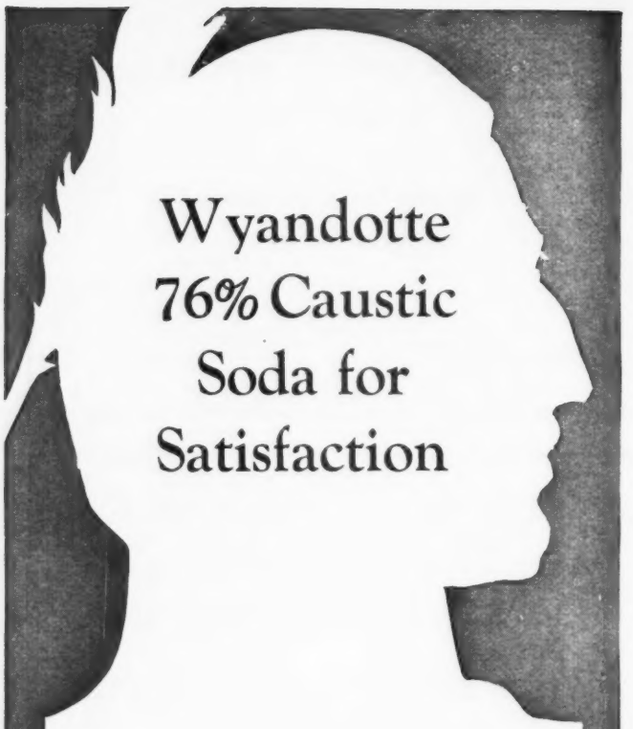

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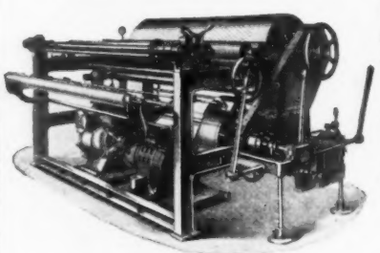

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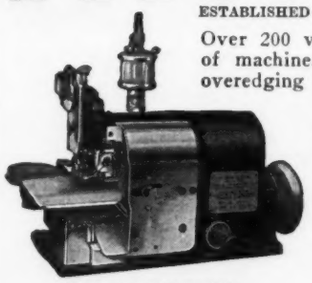

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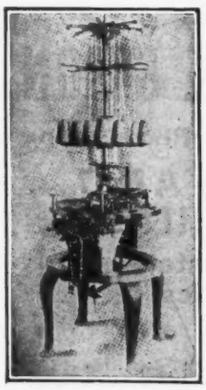

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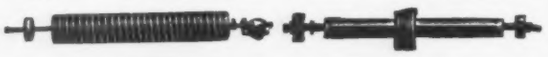

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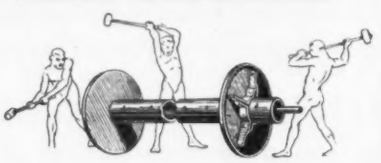

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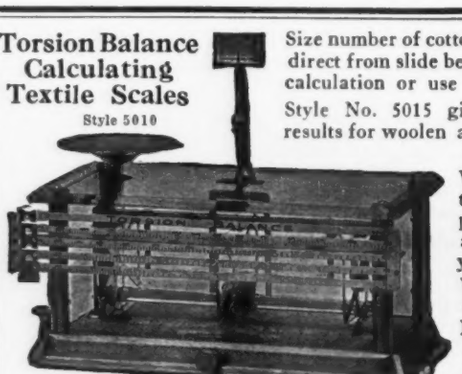

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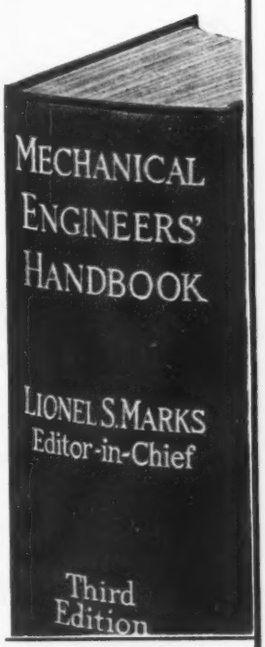
—industrial engineering
etc.



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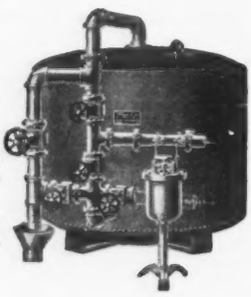

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We make a Specialty of Binding and Narrow Fabrics.

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Manufacturers of
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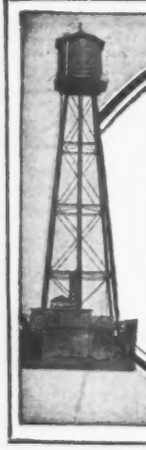

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Caldwell TANKS AND TOWERS

Make a Practice of Reading . . .

and using the Searchlight pages of *Textile World* every week. Here is afforded the opportunity for buyers and sellers to get together. The advantage is mutual.

TEXTILE WORLD

Tenth Ave. at 36th St.
New York

Advertising Rates on Request

HOW MANY TIMES?

HOW many times has a friend of yours opened a conversation by saying "Did you see what TEXTILE WORLD said recently about—"

And when you got back to the mill and tried to find the copy containing that item or article it was missing?

And because you couldn't find the issue you lost out on some real worthwhile information—

Why don't you make sure of always having your own private copy of TEXTILE WORLD? Why not subscribe and have the copies come to your home where you not only may read them at your leisure but also keep them as a ready reference library on all textile matters?

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Tenth Ave. at 36th St.
New York, N. Y.

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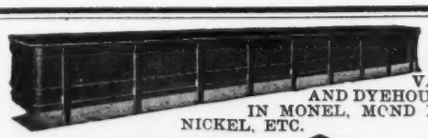

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Castings, Constructions, Machining

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TANKS - TOWERS - STANDPIPES - KIERS
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Heat CONTROL
Temperature Regulation for every process in the textile industry. Write for Bulletins.
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THE POWERS REGULATOR CO.

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Save your copies and at the end of each six months an index will be sent to you thus enabling you to refer instantly to the copy containing whatever article or item you are particularly interested in.

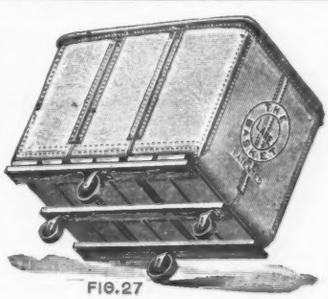

FIG. 27

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Solve one problem for the textile mill.

Light, smooth, wear many years.
Write for Catalog No. 105-T
W. T. LANE & BROS., *Mfrs.* Poughkeepsie, N. Y.

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MACHINERY, MILL SUPPLIES, YARNS, ETC., WANTED AND FOR SALE
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Box Numbers in care of our New York, Chicago or San Francisco offices count 10 words additional in undisplayed ads.

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POSITIONS WANTED

OVERSEER of weaving, 25 years' experience, woolens, worsteds, ladies' dress goods, overcoatings, velours, etc. Expert loom-fixer on all C & K looms, jacquards, draper, C & K Automatic. With leading Passaic, N. J., firm last 15 years, as overseer of weaving. Excellent references. PW-140, Textile World, Tenth Ave. at 36th St., New York.

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LONDON wholesale firm are open to purchase from available stock textiles (piece goods), suitable for the English market. RA-146, Textile World, Tenth Ave. at 36th St., New York.

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You are invited to utilize our industrial and engineering services on factory establishment or relocation. Complete reports on industrial advantages in areas served by our properties. . . . All negotiations confidential and gratis. Address Industrial Development Department.

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CAP DE LA MADELEINE, P. Q., CANADA

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Large, Light, Airy Lofts in Brooklyn

LOCATED AT

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Corner Building

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TO HELP YOU

GET WHATEVER YOU NEED

"Searchlight" Advertising

Can you use this Knit Goods Executive?

He is a man of exceptional ability and diversified experience, both in manufacturing and in selling; an expert manufacturer and styler; has manufactured all classes of yarns, is familiar with knitting machines, wet and dry finishing and has made and sold men's and women's wear coatings, suitings, dress goods, plain and fancy, pile fabrics, fleeces, and jersey cloth. He has been particularly successful along sales promotion and individual selling; he has wide acquaintance with the trade and its requirements. He would like to locate with a progressive mill or with a selling organization where his ability and seasoned experience can be capitalized. He will be a real "find" for some one. Will be pleased to send you further information preliminary to arranging for conference.

Charles P. Raymond Service, Inc.
35th Year
294 Washington Street, Boston
Telephone Liberty 6547
Phone, wire or write us for textile executives of the highest type.

WANTED

I buy and sell Jacquard Machines of all descriptions, also all other Textile Machinery.

EUGENE SECKLER
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WANTED
For Silk Finishing

One Button Breaker and combination doubling and Folding Machine. Must be 60-in. wide and in excellent condition.

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SUPERINTENDENTS OVERSEERS

Available for any department of mill work. Manufacturers may learn of suitable men upon application to

C. T. DONLEVY
1427 Statler Bldg., Boston, Mass.

WANTED
Davis & Furber Sample Card

for making samples. Give full details including diameter and width of main cylinder and state age.

W-143, Textile World
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WANTED
TENTERING FRAME

50 ft. long, 50 in. wide, complete. State age, condition of clips, maker, where can be seen. Lowest cash price.

WERNER CO.
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Rayon Knitting Mill

Equipment 29 Wildmans and 18 Thompkins Machines. 50—Lever Winders. Located in California.

Wants financial or active partner.

Wonderful opportunity for the right party. **no other Rayon Knitting Mill in the entire West.**

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883 Mission St., San Francisco, Calif.

WANTED
One McCreary Intermittent Brushing Machine, preferably 36 inches wide.

Mishawaka Rubber & Woolen Mfg. Co.
Mishawaka, Indiana

WANTED
Draper Full Automatic Looms

Modified Model D with and without dobby heads. 76 in. or 77 in. in reed space. Belt driven. Advise fully regarding age

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HARRY STEPHENSON

IMPORTER, DEALER AND MANUFACTURER

TEXTILE MACHINERY AND APPLIANCES

NEW AND USED

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MARTIN • HORSFALL • DEGAN

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New and Used Woolen and Worsted Machinery of All Kinds

WE HAVE WHAT YOU WANT

VALLEY FALLS, R. I.

JOHN MARSHALL

DEALER

TEXTILE MACHINERY

NEW AND USED

(Representatives located in the North and South)

Telephones 1181 - 1182 Room 303, Granite Block, Fall River, Mass. P.O. Box 515

We *own* and offer for *sale* new and used Textile machinery of all types.

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Telephone 7345-6, 6310

Specializing in liquidation of complete mill properties.

Appraisals.

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TOMPKINS KNITTING TABLES & EQUIPMENT

IN ALL SIZES AND GAUGES

JOSEPH PERNICK, Textile Machinery, 2141 Flushing Ave., Maspeth, L. I., N. Y.

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Owing to the Holiday, New Year's Day, Jan. 1st, the *"Searchlight"* pages of Jan. 3rd issue of

TEXTILE WORLD

will close one day in advance of the regular schedule. Advertisers' cooperation in sending new advertisements or changes of copy early will be appreciated.

Final Closing Time

Display Ads
10 A.M. Tuesday, Dec. 30th.

Extractor Bargains

Rebuilt and Tested in Our Own Shops at Newark, N. J.

2—60-in. Copper Basket Motor, Belt Driven.
2—48-in. Tolhurst copper baskets.
3—40-in. Tolhurst copper baskets.
30—32-in. to 12-in. sizes, copper baskets, standard makes.

Truck and Skein Dryers
Pumps, Boilers, Copper Kettles

CONSOLIDATED PRODUCTS CO., Inc.
13-16 Park Row, N. Y. C.
Barclay 0600

SPECIALIZING in EXTRACTORS

We are in position to give you a real bargain in USED or NEW

HERCULES EXTRACTORS

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Tel. Sherwood 2-6342

FOR SALE

24 Scott & Williams B-7 Knitters 3¼" 220 N. seven step stripers for fancy hose.
50 Scott & Williams B-5 Knitters 3½" 220 N.
80 Scott & Williams B-3 Footers sizes 2½" to 3½".
50 Banner Knitters 3¼" 240 needles
10 Fidelity 3¼" and 3½" (Rib Stripers).
800 Wildman & Brinton Ribbers various sizes.

JAMES SLAYBAUGH
5416 Lena Street Germantown, Philadelphia

FOR SALE

One 80-ton Watson-Stillman Baling Press and Pump

JOSEPH BANCROFT & SONS CO.
Wilmington, Del.

1—Kitson 4-Section Waste Machine. Cards and Spinning.
1—H & B Band Making Machine.
150—24-in. Draper Looms.
1—Lowell Slasher.
1—Herman Shear.
1—Textile Tentering Machine.

FS-133, Textile World
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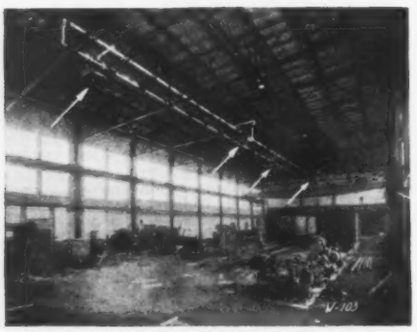
30—20 to 54 in., steel and copper baskets. American, Adams, Troy, Tolhurst Extractors.
4—Two-truck Yarn and Automatic Stock Dryers.

STEIN-BRILL CORPORATION
25 Church Street, New York, N. Y.

WING FEATHERWEIGHT UNIT HEATERS



Railroad Machine Shop Type H C Vane Discharge Wing Featherweight Unit Heaters, installed 38 feet from floor.

HEAT FROM THE ROOF DOWN

FROM their overhead out-of-the-way locations, they deliver large quantities of comfortably warmed air to the working area, uniformly distributed by means of scientifically designed adjustable discharge outlets.

There is no radiant heat to cause discomfort to the workers as when heating apparatus is placed on the floor or when it is placed on the walls as with old fashioned pipe coils or radiators.

WING Featherweight Unit Heaters are very light and compact. This permits them to be installed immediately over the area to be heated. A great part of their superior effectiveness lies in their completely overhead position.

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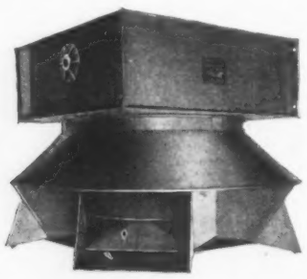
WING Scruplex Fog Eliminators—a light weight heating element, motor and fan for installation in windows of dyehouses, bleacheries, etc., for conditioning fresh air to absorb vapors and clear away fog.



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Manufacturers of Wing Scruplex Safety Ventilating Fans and Exhausters. Wing Featherweight Unit Heaters. Wing Scruplex Fog Eliminators. Wing Motor and Turbine Blowers and Centrifugal Blowers. Wing Turbines.

Dept. 1, 160 West 14th St. New York, N. Y.

"Heat With Unit Heaters"

Short Route to Higher Net

NEW MACHINERY—the first approach to better profits in textiles. And then—new means to make your machinery deliver maximum production per operative. Do it at your LOOMS automatically with

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Tanner Type Re-Setting

PICK COUNTERS

Afford Instant Comparison of Actual and Expected Production

By re-setting counting units to zero, production is totalled from start of pay period only. Expected production is posted in card holder, while actual production appears on the Counter. Each weaver becomes his own supervisor. Unauthorized re-setting impossible.... Ask for free trial installation.

Veeder-Root INCORPORATED HARTFORD, CONN.

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It's just a difference of "striking out for yourself" or "being led along by others."

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You'll find it pays to be up on the cowcatcher instead of back in the caboose.

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Tenth Ave. at 36th St., New York, N. Y.

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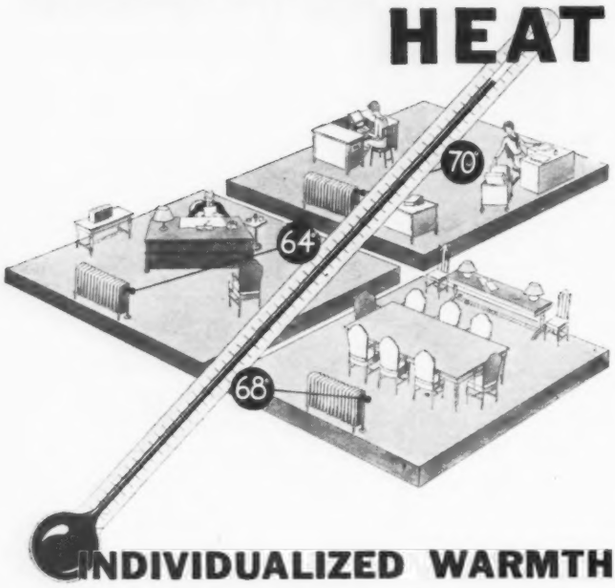
"Made to Measure" HEAT



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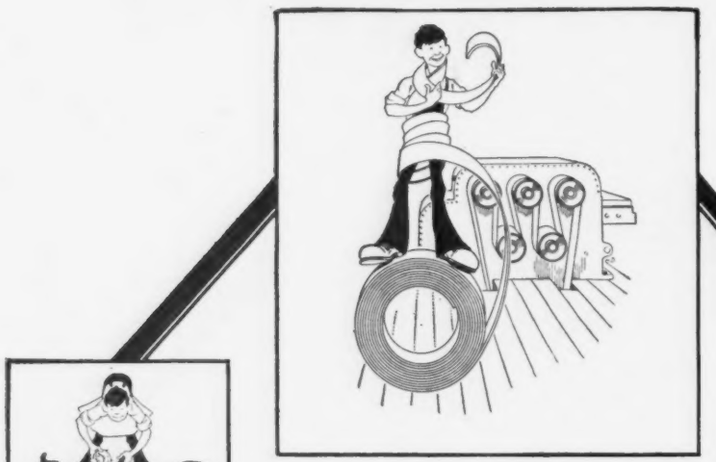
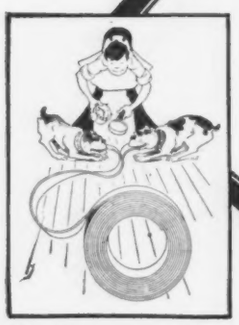
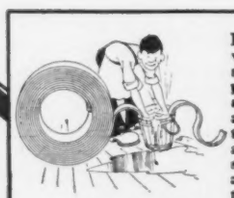
This New *Leather Belting Has Greater Flexibility*



The laps and plies are so securely and uniformly cemented that they seem almost to have grown together.

Has Greater and More Uniform Adhesive Strength





It can be used with perfect safety in wet places because all laps and plies are strictly waterproof. This also is real insurance against accidental wetting.

Absolutely Waterproof

Costs No More

This new and improved Belting costs no more than you formerly paid for our common cemented Belts.

BECAUSE the cement in this *new* Leather Belting is as Flexible as the Leather itself, the constant bending back and forth over the pulleys will not break down the cement. This means that it is a livelier Belt and one that wears longer.

This Leather Belting is made by an exclusive process of tension cementing for which a unique type of Belt making machinery (patent applied for) was developed by our own engineers. This modern, scientific process produces Belting that enables you to make real savings because of its many advantages, some of which are: its greater and more uniform adhesion in laps and plies—its greater flexibility—its waterproof qualities—and the fact that it costs you no more than you formerly paid for our common cemented Belting.

Belting users make a substantial reduction in maintenance, operating and production costs by using the *new* Graton & Knight Leather Belting.

All Belting users are invited to visit our plant at Worcester, Mass., and see in operation the amazing new type of Belt making machinery which is producing this new Leather Belting.

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Rubber Transmission, Conveyor and Elevator Belting
Mechanical Rubber Goods
Lace Leather

Round Belting
Belt Cements and Dressings
Leather Pickers

Lugs and other Loom Straps
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Leather Link "V" Belting

Graton & Knight Company

Worcester, Mass.

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